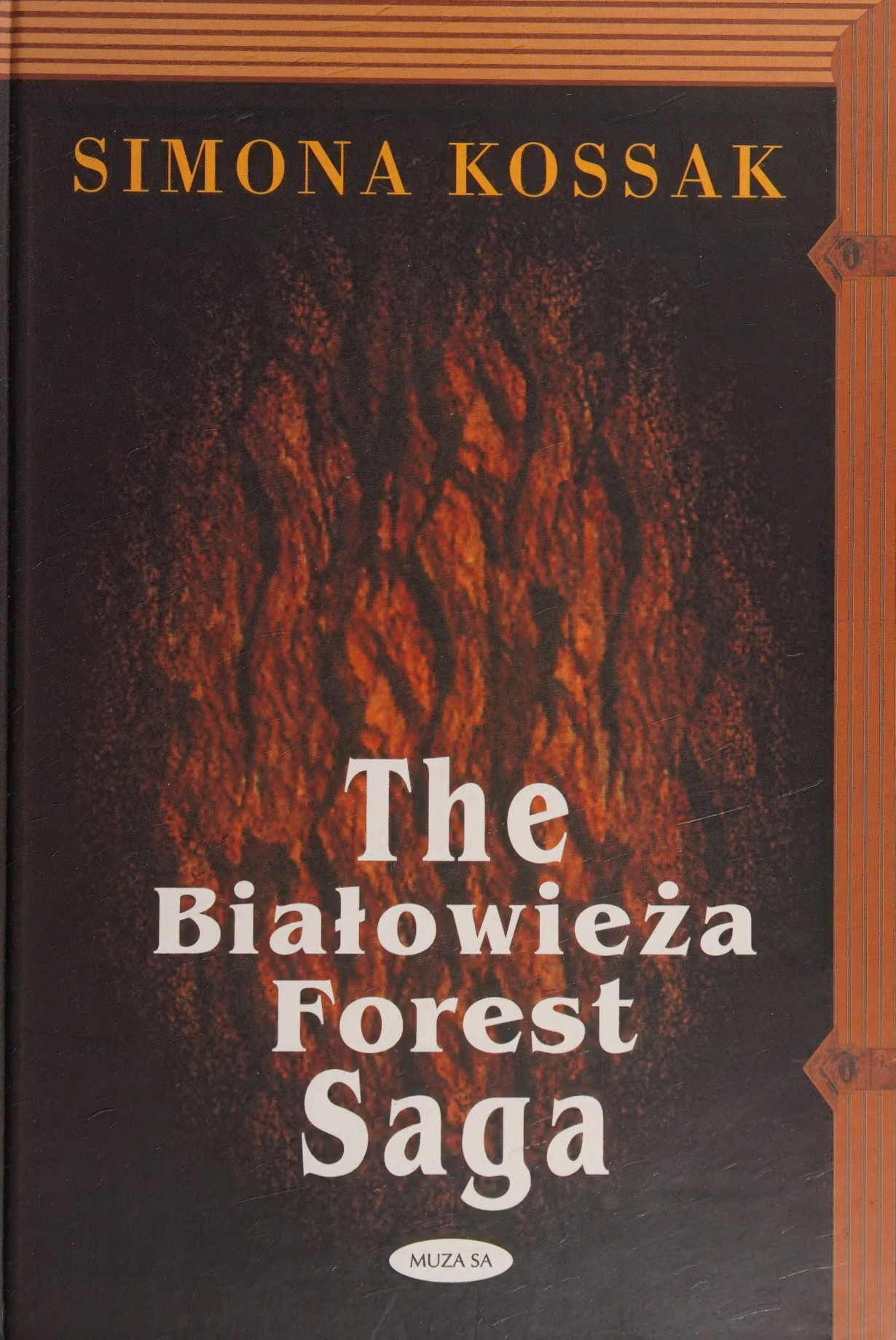
SIMONA KOSSAK



The Białowieża Forest Saga

MUZA SA

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SIMONA KOSSAK

The Białowieża Forest Saga

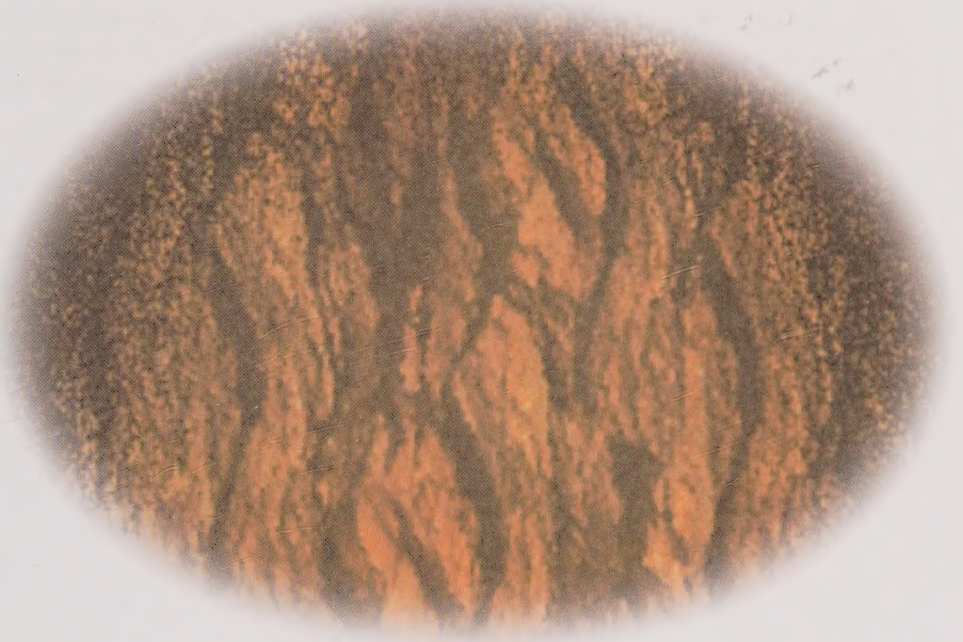
The author of The Białowieża Forest Saga studied biology but she has chosen forestry as her profession. She was born in Cracow but she has chosen Białowieża as her place of residence. She graduated from the Faculty of Biology and Earth Sciences of the Jagiellonian University, specializing in animal psychology. She obtained her academic degrees from doctor's to ordinary professor's in forestry science. She was born and brought up in Cracow, at the Kossak family house known as 'Kossakówka'. After her graduation from the University she moved to Białowieża. She has been living deep in the Białowieża Forest in the old forester's lodge called 'Dziedzinka' for thirty years now. Her partner in private life is the renowned photographer of nature Lech Wilczek. She works at the Natural Forest Department of the Forestry Research Institute, where she studies the behaviour of wild forest mammals and their ecological interrelations with the environment. For many years now she has been also making the scientific inventory of the number and composition of game and protected mammal population. By this she significantly helps the foresters, the hosts in the Forest, to manage the fauna and protect the rare species in a sensible way.

Simona Kossak comes from the famous artistic family. Her father Jerzy, grandfather Wojciech and great-grandfather Juliusz were outstanding painters of battle scenes, devoted to horses, Polish countryside and historic events. Her father's sisters were poetess Maria Pawlikowska-Jasnorzewska and woman writer Magdalena Samozwaniec. Her great aunt, Zofia Kossak-Szczucka, was noted for historical novels.

The author's 'genetic load', her upbringing and the love of animals permeating through the whole family account for the fact that purely scientific research and paper writing turned not enough to make her happy. She only gained full satisfaction from popularizing environmental protection. She has written a few hundred articles aimed at 'civilizing our behaviour'. Her book Opowiadania o roślinach i zwierzętach (Stories of plants and animals) was published in 1995. She has also made dozens of radio and TV programmes and organized many campaigns for the natural environment. As regards painting, she admits she can only paint walls in one colour. But seven years ago she started to film with a video camera and now her amateur documentaries on nature keep winning awards at local and international festivals.

The Białowieża Forest Saga has been written to pay the author's debt for her thirty years of happy life feeling as snug as a bug in a rug in the green paradise of the Białowieża Forest.

SIMONA KOSSAK



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Above all that in nature's realm
lives and sings and breathes,
above all that can love and yearn
I cherish forest trees...
... And when in eternal dreams
I shall finally lie,
I want the Białowieża leaves
to rustle a lullaby...

Julian Ejsmond

Introduction

The Białowieża Forest is dying. A mist-shrouded figure holding a scythe stalks amid the trees, though a slant-eyed lynx no longer crouches at its feet and giant lindens and age-old oaks spread their twisted arms no more.

A council of worried researchers and foresters bend over the deathbed. They know the name of the disease. The bitter truth is that man's pride – forest management poses a dire threat to the primeval forest.

The more effort they put into forest management, the faster the forest dies. The merciless managed forest, so clean and well-maintained, yielding timber and other products, hates the primeval forest. Thus, it gradually swallows every bit of wild and free nature. With each movement of saws cutting 'useless' wood, with each burnt tree trunk that stood in the way and each neat row of pine seedlings growing into a perfectly groomed artificial plantation, the primeval forest gets more and more feeble. Driven out of old decaying trunks, its soul cries hidden in the last patches of wilderness.

You may stand among trees but god Perkun is not there any more. You cannot pay respect to the holy oak of your ancestors; neither can you hear wild bees humming in a hollow linden tree. You would humbly lower your head before the majesty of the place you come from: the Slavic primeval forest. But the forest is dying.

Thousands of deaths occur: deaths of small, unnoticed creatures deprived of their homes, of successive tree generations which die

before their time. Such is the verdict on the forest, even though it breaks your heart.

The scholars have made a diagnosis and they know the way to save the forest – or rather several ways, each of them harmful to it. The council of forest doctors keep arguing, quarrelling and fighting. Time flies and the patient is getting weaker. A shower of ambitions, resentments and objections, scientific theories, practice and expertise leaves the forest untreated. Amid programmes, conceptions and guidelines, the primeval forest is dying. Despite countless meetings, decisions and issued documents, it is dying. Politics, lobbies, business, money, money, money...

The primeval forest is dying!

Years ago some researchers placed a boulder on a plinth and put an inscription on it to honour the Białowieża (Belovezh) Forest, or Puszcza Białowieska. This became its tombstone.

Shocked by the speed and extent of Białowieża old-growth forest felling, I published an article entitled 'Death of the Forest' in *Gazeta Wyborcza* in June 1992. Wherever you looked then, cleared areas extended, replaced with artificial plantations to form timber forests in the distant future. The finest healthy old oak, spruce, pine and ash trees were felled and heavy equipment destroyed the forest floor.

The taking away of thousands of natural forest trees and substituting them with rows of artificially grown seedlings only to obtain new timber inevitably brings death to the primeval forest. It can live as long as it grows out of the ashes of its ancestors and the natural cycle of birth and death continues for millennia. Today, only one place like this remains in Europe: the Białowieża Forest. Though its substance has been severely depleted, it still has the powers to regenerate itself.

An artificially planted forest juxtaposed with the primeval forest is like a cow compared to a bison or a village dog to a wolf. This is how the Noteć, Kampinos or Niepołomice Forests look like as compared to the Białowieża Forest. As Dutch metal to real gold. The wild, free primeval forest does not need us, our saws and feeble seedlings to last for further millennia.

For many years now great numbers of scientists and nature lovers have appealed to the government to start a conservation programme on the Polish part of the Białowieża Forest. Old-time rulers are pointed out as an example to follow. From the time of king Władysław Jagiełło they took care of the forest and protected its natural treasures. It is believed that thanks to them it has survived almost intact till our days.

I invite you to take a journey in time rather than through space. Reading this book we shall remain in the Białowieża Forest, while millennia, centuries and decades will shift before our eyes. But the pictures we shall see contradict the legends of the good old times of Polish kings who admired the Białowieża Forest, and of their noble subjects. The truth found in chronicles, diaries and historic documents is less edifying: the local population did not care a straw about the majestic beauty of the Forest. They missed no opportunity to take advantage of its treasures. Each upheaval such as war or change of the country ruling over the region, as well as the preferences of successive rulers, either following fashionable trends, or looking for ways to fill the state treasury or to buy the favours of the powerful and wealthy – have brought disaster to the Białowieża Forest since the dawn of history till our days.

The fact that it has not yet shared the fate of other primeval forests, of which but the name (in Polish *puszcza*, pronounced 'pushcha') has survived, results from its inexhaustible life force. Also its geographical location far from populated villages and towns, on the border of nations and hidden amid swamps, contributed to its survival. But it has also paid a terrible price to hunters. Though severely mutilated and robbed of trees and wildlife, the Białowieża Forest is the only one in contemporary Europe which still resembles the primeval forest that covered the European Plain from the Carpathian Mountains to the Baltic Sea six thousand years ago.

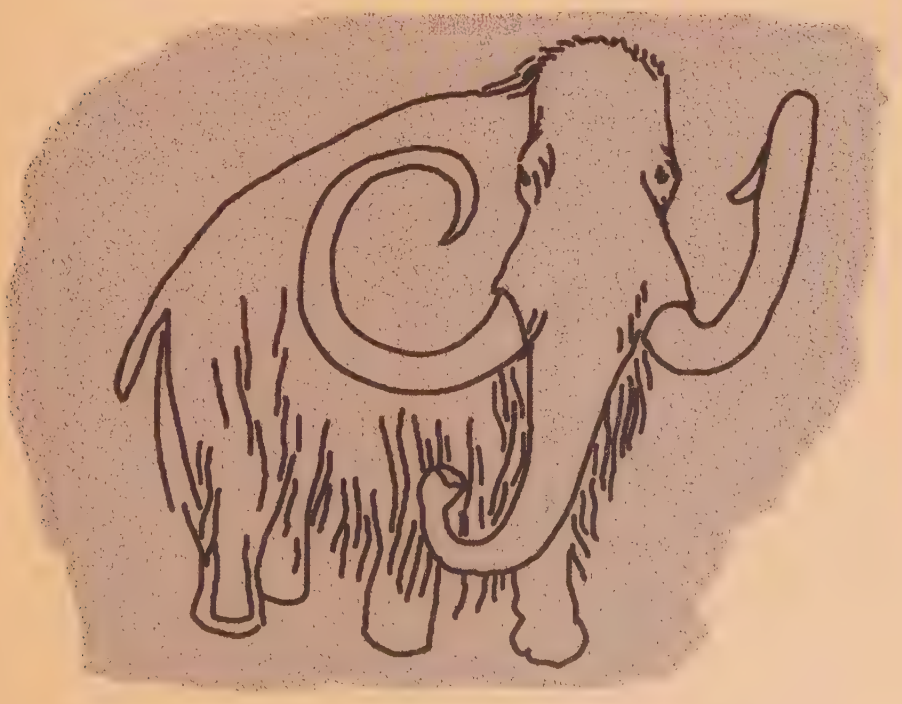
The last stage of its life story unfolds before our very eyes.

The places mentioned in the book

- Villages and settlements
- Legendary places
- Sosnowe — Forest ranges
- *Leśna* — Rivers
- The Białowieża Forest boundaries from the Ordination of 1639
- The contemporary forest boundaries
- Deforestation of the Białowieża Forest during the Russian partition period

Mammoth and Reindeer Hunters

Spring took hold, colder than any previous one, though for a long time none of them had given enough warmth to sustain the life of trees. Icy gusts of wind whipped the dying forest. Here and there, remnants of wide-spreading oaks and lindens jutted up next to fallen pines, but the understory lacked new regrowth. Only in willows, birches and spruces did some life still flicker. The gradual climatic cooling that had proceeded for thousands of years was starting to gain speed. Ever faster, new patches of European land disappeared under ice, both approaching from the north and sweeping down from the southern mountains.



A lonely mammoth was limping through the graveyard of trees and lesser plants. The escape route of the herd of nine giant animals from the realm of the Polar Star turned out to lead to nowhere. Like dark milestones, their dead bodies marked their way through the morass and half-frozen mud.

The mammoth took shelter in a willow thicket. The four-metre-high body was visible through a tangle of branches. Its long, dark brown and reddish fur with a woolly undercoat ought to have protected it from the freezing cold. But the creature was trembling. For many days merciless sleet had been falling and the animal's fur had got completely wet through. Deprived of its protective layer of fat, the skin was washed by water, which no longer evaporated from the cooled body. The animal's hooves, softened by the mud and cracked, no longer protected its aching feet, which were meant to tread on hard and dry ground. The absense of a humplike reserve of fat upon the top of the head, which descended steeply to the neck, and sharply protruding bones showed the animal's emaciation. Only the magnificent creamy white 140-kilogram tusks, proudly curving upwards towards the sky, testified to the past glory of the species.

The mammoth sluggishly looked around for food. At this time of the year it craves for green grass and forest herbs, but these were found no more. And the animal was already too weak to push a tall tree with its huge tusks to make it fall down and bring its budding leaves within the mammoth's reach. It had to make do with spruce and willow twigs and moss covering the swamp. It tore off every single shoot with the tip of its trunk, took it to the mouth and chewed slowly.

A few two-legged creatures appear for a while on a high elevation amid the swamps. The hungry band of hunters sees the mammoth. Fleeing from the glacier descending down the southern mountains, they have left their caves and along their escape route they hunt for small game. But the glacier's cold embrace has wiped out small fauna such as wolves or foxes and mammoth carcasses found in the dying forest has become the last remaining source of food.

One hunter is sent to reconnoitre, while the rest stand waiting behind the hill. He comes back and crouches down, gesticulating and shouting, highly excited: the mammoth is alone, sick and it can not run away too quickly. But it is as big as a mountain and as dangerous as death. The hunter chief pulls a wry face, looking at his companions. They are holding massive clubs and flint knives are stuck behind the leather straps fastened around their robes. Sharp-bladed, heavy stone axes rest next to them. Still, the men's eyes are trying to escape his glance. The band is too weak to challenge a mammoth to a fight. But their hungry stomachs call for meat... The chief decides that they will drive the animal into a cleft.

Fourteen men and eight women scattered unnoticed round the wood, jump out suddenly at the mammoth and force it to run by shouting and throwing axes. The giant animal raises its trunk and starts to gallop, knocking birch and spruce trees over with its powerful body and splashing mud about. It jumps over a log, then another one. For a moment he is alone. But then it has to slow down, for a bloody mist of exhaustion marrs its vision, and the hateful beings approach it again. With a swishing sound, an axe cuts deep down the base of its trunk. A painful roar fills the air. The earth moves under the wounded mammoth's feet and it sinks into the cleft. It tries to rise, but just then the band jumps on it. They keep jabbing, cutting and hitting the animal until they kill it. In its final death throes the beast turns its body to one side. A scream is heard and the hunter chief disappears under the huge mass.

Meat is piled by the fire, along with the bloodied ribs and the huge head supported on the white tusks. In the place of the trunk there is a bloody hole. Against the rising sun, a few men in a harness made of mammoth skin slowly pull a big stone slab. In a dark rectangular hole dug in the hilltop and evenly laid with rocks lies the body of a man, curled up on his side, a black flint axe beside his face. A woman approaches the tomb. She takes handfuls of red powdered clay from a bundle tied at her waist and sprinkles it on the dead man's face and torso. Her dark eyes are set deeply under heavy

browridges, her low forehead receding towards the rounded occiput and the short neck stuck in between the shoulders. Tears roll down her cheeks.

Tens of thousands of years have passed. A deathly layer has covered the earth kilometre deep, forming an icy shroud undulated by raging winds. Only the moon and the pale sun look down on that white desert. The ice sheet moves backward and forward, carrying blocks of rock torn from the mountains. It cuts grooves and swallows the ground. On its retreat, the glacier spouts rivers and rumbles, grinding boulders in its guts, and throwing them around until glacial till, greyish green and ochre clays and reddish ferruginous sands and silts cover the human graveyard with a twenty-metre layer. Finally, the white killer grows old. It attacks the European Plain once more, but this last time it reaches only as far as its northern edge.

In the tundra and steppe zone outside the ice sheet life is in full swing. Herds of musk oxen, woolly rhinoceros and reindeer venture furthest to the north. Horses and swollen-snout saigas graze on vast areas of land; ancient bison and deer with enormous antlers feed in thickets. The roar of a cave bear, howl of wolves and the barking of foxes and Arctic foxes are heard at night.

A lone reindeer hunter wanders across the tundra. He is a tall, shapely boy, with a straight, moderately high forehead above only slightly marked browridges. A thinking man. He carries a bow and a bundle of arrows with stone heads. His sturdy neck is decorated with a necklace of twenty fox and wolf teeth. An aurochs horn at his belt hides the tools made during his lonely evenings: a sharp chisel of reindeer shin with a handle carved in the shape of an owl head and another one of deer bone with almost an inch wide blade, an awl decorated with a horse head and another of a rounded bird bone, an eight-teeth flat burin of goat shin, excellent for sculpting in clay, as well as a big, bow-shaped needle made of a saiga rib, with a hole for leather straps. This treasure, very handy on his many days' journey, will be his gift to a girl, who said goodbye to a boy and is waiting for a man to return – a hunter who can capture game on his own.

In the rays of the morning sun, a herd of reindeer graze on herbs overgrowing the tundra. Holding his arrows, the boy draws his bow from the shoulders to the back and crawls among the low willow shrubs like a snake, with his body close to the ground. He ignores a few females with their young. Sharp tangled branches whip his shoulders painfully. The young hunter slowly approaches a fine adult bull, but suddenly he catches on something. He struggles out, making some noise, and raises his head in terror but the reindeer stands with his back to him. The animal did not notice anything. The hunter continues his approach. He is already so close that he can smell animal scent. Then he rises slowly on one knee, pulls the string and sends an arrow straight into the heart of his victim.

The hunter is ready to go back home. He only has to stitch up the edges of reindeer skin, in which he put the best pieces of meat, and fasten the imposing antlers to it. His hand reaches for the tool container, but it finds only a piece of broken strap...

The last million years of the history of the Earth, known as the Quaternary Period, is subdivided into the Pleistocene and Holocene Epochs. In the Pleistocene, glacial ice advanced four times on Europe. In interglacial periods the present area of the Białowieża Forest had a moderately warm climate. The major glaciation occurred in the so-called Mindel Stage and covered 4.5 million km^2 of European continent. In Poland, the ice cover went as far as the Sudety and Carpathian Mountains, where it met the glaciers descending from the peaks. The entire fauna and flora on that territory was destroyed.

The last, Wurm glacial stage, included the present Mazurian and Suwałki Lakelands. Steppe and tundra formed in front of the ice sheet, which receded some 12,000 years ago, leaving behind the Baltic Sea. That marked the beginning of the Holocene Epoch, the one we live in.

Mammoths in Europe died out in the late Pleistocene. Neanderthal man appeared in Europe more than 250,000 years ago and died out some 40,000 years ago for reasons unknown. This was in the Palaeolithic Period, also called the Old Stone Age.

Traces of the so-called Mousterian culture have survived from the Middle Palaeolithic Period (100,000–40,000 BC). These people could light a fire, used a variety of stone tools and buried their dead. Primitive man had an abundance of flint nodules at his disposal. They offered excellent material for simple everyday tools, such as stamps, axes, scrapers and knives of long, sharp flakes, produced by knocking off flakes from flint rock cores.

Neanderthal men lived in rock caves and holes they dug in the earth, most often in sloping riversides. As nomadic huntsmen they

did not cultivate land or breed cattle. They hunted on wide expanses of wet tundra, hot and dry steppes and in dark primeval forests. A tomb of a Palaeolithic man lined with rocks was found in northern Ukraine early in the 20th century.

About 35,000 years ago in the Upper-Palaeolithic Period, Europe was settled by Cro-Magnon men, named after the caves near Cro-Magnon, France, where skeletons of people from the Aurignacian culture were discovered. Regarded as our ancestors, they were formerly believed to dwell only in caves, but recent archaeological finds have proved that they also built long, roofed, multi-family huts, using mammoth bones and other materials.

The oldest traces of man's presence found in the territory of the Białowieża Forest date from the Neolithic Period. They include flint tools and fragments of vessels buried in riverside dunes, as well as stone axes and arrowheads uncovered while ploughing land. In 1923 archaeologists came across the remains of two settlements. On the right bank of the Narew River near the village of Rudnia some broken vessels, flint scrapers and knives were found. South of the Dziki Nikor swamps a number of stone tools and flint arrowheads as well as six knives were discovered. Both settlements are dated to the New Stone Age.

Apart from gathering, hunting was one of the main ways of gaining food by Neolithic people. It was not easy for them to kill animals in order to have their meat, skin, tendons and bones. They usually hunted in bands, chasing their prey, but lonely hunts also took place, as we can learn from cave paintings of that epoch. Dogs, which later became man's most faithful assistants in hunting, were not yet domesticated. Hunting implements, however, were perfected: a bow was invented, simple but effective from a great distance. This sensational weapon is thought to have been made first in North Africa, from where it was imported to Europe via the Iberian Peninsula some 12,000 years ago.

Cro-Magnons left a variety of weapons and tools made of smoothed, polished and bored stone, bones and horns, often

combined. Such easily chopped and manipulated rocks as obsidian, quartzite, diorite, and most of all flint were used. Man would no longer pick up nodules lying on the ground, weathered by the sun and wind. He would rather dig deep in wetter rock deposit to obtain better material.

He made clay vessels and embellished them. He wore animal skins, removing hair with sharp scrapers, tanning them, cutting to shape and sewing with twisted animal intestines. He liked decorations like necklaces of bored animal teeth, carved bones, seashells and coloured stones.

Early in the 20th century the archaeologist Józef Chojnowski found a number of tools and ornaments, including an aurochs horn container with some everyday utensils, in southwestern Russia.

Cro-Magnon man created the foundations of religion in the form of the Mother-Goddess cult and the cult of the dead. He made artistic objects. The unmatched simplicity of presentation, realism and precision in expressing movement, as well as the maturity of sculptures and colour paintings on rock walls fill contemporary artists with admiration and envy. Animals were the hunter-artists' favourite subject. Among 300 species identified in these paintings by zoologists are the mammoth, reindeer, aurochs, ancient bison, bear, tarpan, deer, antelope, ostrich, seal, eel, fox,

lynx and wolf. They are depicted running, grazing and mating. Some figures of hunters equipped with bows and spears appear among them.

The paintings serve as a unique illustrated encyclopaedia of fauna, which shows us how some extinct species looked like. It was long disputed, for example, why horses are presented with big, unshapely heads. The artists were even suspected of lack of skill. It was not until skeletons of Palaeolithic horses were found that we understood how perfectly primitive cavemen had rendered nature.

The Primeval Forest

Five thousand years had passed since the withdrawal of the ice sheet to its original site, the mountain peaks of the North. Upon its retreat, it melted all over in the sun's rays, poured

A riverine forest

out water and soaked the ground. It filled the great valley at the foot of Scandinavia with water until it became a fresh-water sea, which broadly joined the ocean. Water reigned over the land freed from the glacier. It took the form of wide rivers, which carved the virgin soil, filled earth depressions with lakes and soaked the land, forming swamps and marshes. Only some elevations of eastern Europe, like dark islands amid the vast ocean, gave shelter to animals and people fleeing from the surrounding deluge.

Finally, the water started to disappear. It flowed rapidly into seas and lakes and joined underground streams. Sucked by plant roots, it evaporated into the air. Every summer more land was dried around the initial elevations. Flat hills were again covered with green larch and pine woods; riverbanks were protected by alders. The climate was warming. It took only ten centuries for rustling oak woods, fragrant lindens and rows of ashes to grow above the still waters that remained there for good.

A lynx in the forest backwoods

Such was the birth of the primeval forest, which extended from the bare slopes of the Carpathians to the Baltic Sea. Rivers and streams were its pulsating veins and lakes – its eyes gazing at the stars. Its heart beat on a vast plain in the northeast of Europe, 170 metres above sea level, between the arms of two rivers. To be given its name, the Białowieża Forest would still have to wait many centuries.

Deep underneath tree roots, a thick layer of chalk emanating a good magic energy was all that remained of the primeval sea. Various clays, hills of sand, gravel and stones deposited on it. In river valleys the chalky clay carpeted with peat was so near the surface that it was later used for whitewashing by the people who settled in the area. The clay and sand floor was covered by soils such as podsol, brown soil, lessivé, alluvial soil or chernozem, and light, fertile humus on top of it, a result of thousands of years of burying plant and animal remains. New life was nurtured on past generations of dead herbs, shrubs and fallen trees.

The forest floor, overgrown with a tangle of big and small roots and rhizomes, was still abundant in water. Every year in early spring it made the complex system of the forest's rivers and streams swell and flood vast expanses of woodland. Aided by melting snow, it dampened the ground and then soaked into it, washing out precious nutrients from forest residues and carrying them to deeper layers of soil. It also raised the groundwater level, which gradually lowered again after summer droughts. The cycle repeated every year.

Underneath the dry, aromatic pine and spruce and mixed forests, the water table hid at a depth of up to four metres and its annual fluctuations did not exceed half a metre. Water was much nearer the surface under oak and hornbeam forests: only one metre below the ground cover, and its annual fluctuations could reach two metres. In alder carrs, riverside fens and marshy coniferous forests water stood still above the surface for most of the year. Treacherous, swampy depths lurked beneath the twisted tree roots and tufted vegetation.

Winters came in November or December. Frost caught the earth in its cold embrace, changing it into rock without any mercy. The deeper

the water was hidden, the thinner the understory of moss, litter and snow and the fewer the days of thaw, the deeper the ground was frozen. Snow was always the first to surrender to spring. Then the icy bonds were cast off in woodlands and wet-ground forests, while on peatbogs and riverine forests ice would sometimes linger till May.

To roaming strangers, the Forest still shows its fabulous ancient face. Wherever they look, they can see colonnades of huge trunks topped with green crowns. Every crinkle of cracked oak bark, every tree hollow and every swamp wrapped in fog cherish the memory of the remote past. But among the legion of Methuselahs sharp eyes may soon spot a group of youngster-lindens, teeming unruly on a bright clearing, a young pinewood covering the site of a fire with fresh greenery, or slender hornbeam seedlings growing straight from moss-covered, mouldy remnants of some long-dead ancestor.

The Forest never was and never will be old. Timeless and majestic, it lasts through passing millennia untouched and as vital as ever. Generations of trees and herbaceous plants are born; they grow up, get old and turn to ashes in their own rhythm. Autumn gales, summer storms and winter snow cover turn large areas of forest into piles of fallen trunks and broken branches. As days pass, the wounds heal and greenery covers them again with new life.

Each kind of soil, depending on the water resources, yields a different forest, but always with a great variety of tree, shrub, grass, sedge, herb, moss, lichen and mushroom species.

Wet-ground forest is the most refined of all. It grows on clayey soils, usually on rich brown soil or lessivé. Although groundwater stays rather deeply, at times it is stored in the root zone due to poorly transmissive clays. The space between the forest floor and the blue sky is filled with rich greenery. The oldest spruce, oak, ash and linden trees tower above lower trees, such as maples, hornbeams, elms, birches and some alders, which form a canopy of crowns. Still lower is the realm of hazel, spindle tree and the young generation of trees climbing up towards the light. The forest floor is equally crowded. Perennials dominate: lush clusters of grass and fern, goatweed, nettles and wild garlic,

buttercup and corydalis. A host of chickweed, yellow archangel, vetchling pea, sedge and horsetail grow below, while wild ginger, lungwort, flower piercer, liverwort, maianthemum, wood sorrel and wild violet are happy to stay close to the ground.

When the flat terrain becomes more elevated, the forest changes its appearance. It becomes a mixed coniferous forest, growing on podzolic soil. Age-old pines and spruces grow in perfect harmony with oaks, aspens, birches and hornbeams. Hazels and young, shade-tolerant trees hide under their crowns. In the shady undergrowth, apart from wet-ground plants, there are melick, sedge, anemone, chickweed, cowberry and bilberry, wintergreen, *Trientalis*, bracken, hawkweed, goldenrod and lily of the valley, and the ground is covered by dense and dark moss.

Sometimes the terrain descends into a peaty trough with stagnant water, forming one of the Białowieża Forest fens. Here, alder dominates, with some single spruces and downy birches clinging with determination to islands of firm soil, as well as tall, greyish ashes. The understory consists of alder buckthorn, European mountain ash, willow, osier

Spring in the fresh mixed forest

and young spruce. The valleys, filled with water throughout spring and summer, shelter such marshland vegetation as nightshade, gypsywort, countless sedges, yellow flag and hydrophilic ferns. On islands, wood sorrel, maianthemum, berries, club moss and other mosses cling to the bases of trees.

The forest river flows sluggishly, its banks hidden in dense rushes. Subject to the annual overflow of mud, the river valley has turned into fertile marshy meadows overgrown with plenty of willows. Among the shrubbery, here and there grow hazel, buckthorn, spindle tree and blackberry. Hop and white-flowered greater bindweed twist around tree branches, and the parasitic dodder twines around ground flora. Fields of stinging nettles bar the way to the river.

Badgers in the mixed forest

The Narewka

An eagle circling up in the sky scans the blue ribbon of meandering water and the compact, green canopy down below, impenetrable for the eyes.

Under the roof of leafy branches life goes on in full swing.

A humming swarm of wild bees clusters round a bear, which – paying no attention to their stings – puts its hairy paw into their nest in a hole of a rotten linden tree. The tree creaks and bursts with a rain of dead wood pouring into the robber's eyes. The bear snorts and wipes its eyes, scratching with its curved claws inside the old trunk. It picks up honeycombs and licks the honey along with the pollen, larvae and beeswax, making loud smacking noises. Then it licks its paws and goes away, swinging its massive body from side to side. It is already barely visible among the trees, but the last angry defenders still keep buzzing like mad.

On a sunlit clearing a female aurochs cleans her calf, bending her horned head over it. She tries to be gentle, but the little aurochs sways on its thick, lumpy legs upon each move of her rough tongue. Eventually, it hides under its mother's black belly and reaches for a teat. The cow raises her head to listen, while the bear skirts round the clearing, smelling aurochs.

The silence is broken by the rumble of a falling tree. Two thickset animals with glossy fur and flat, scaly tails start to strip an aspen top of shoots. The tree has been felled so precisely that its crown touches the water table. Small beavers are playing happily among twisted branches and roots on the top of the dam dividing the slow current of the river from a wide pool. They are climbing the dam, pushing one another

down and wrestling. Suddenly, one of the adults working ashore stands upright, then drops on all fours again and drags itself towards the water. The other beaver follows. It splashes water with its tail in alarm and the young disappear from the dam. A bear has emerged out of the bushes covering the riverbank. It sniffs at the white pointed end of the felled tree and the marks of paws and tails in the mud, drinks some water, shakes and brushes off a few bees from its furry muzzle. Finally, it turns back and goes away.

A few years back, a patch of old forest was burnt in the fire caused by lightning. Having plenty of sunshine, the place has been overgrown by grass and pine seedlings. Only some charred trunks visible amid the greenery are a reminder of the disaster. In the middle of the conflagration site a herd of tarpans are grazing. Mares and foals are feeding in peace, closely guarded by a stallion standing motionless on a hillock with his head raised proudly. A gentle breeze moves his tail, combs his dark, flowing mane and strokes his dun-coloured coat marked with a black dorsal stripe. With the breeze some distant smell reaches his nostrils. Flaring them, the stallion catches a hostile odour. He neighs and stamps his forelegs on the ground to warn his 'harem'. The whole herd runs away. Meanwhile, the bear keeps itself busy digging up a burrow full of voles. Hearing a loud beat of hooves, it raises its head, sniffs and returns to its meal.

A hairy animal is crossing the nearby swamp, carefully treading on its broad, furry paws from one small island to another. Its has a bushy tail, long-haired black coat on its back, belly and legs, two light brown stripes on each side and a grey caplike marking on its head. The thick layer of moss covering the swamp edge surrenders to its 35 kg weight. Water collects in the imprints of its paws, equipped with long, sharp claws. The beast trots to harder soil, for despite living in swamps it hates mud. Having come across an animal path, it starts to run. It seems to move with difficulty, limping and jumping clumsily, stopping every now and then to sniff and listen for something. In a cowberry field close by, a capercaillie hen is walking her nestlings. She glances sideways and up among tree crowns on the blue sky with puffy white

clouds. It is quiet all around, so she stops for a while, lowering her wings and relaxing. Summoned by their mother, the chicks come near and hide in her soft feathers. The predator is crawling unnoticed out of the bush...

In a fallen tree amid the swamp three youngsters wait for their mother to come back. They are ready to leave the nest and one by one they shyly stick their flat heads covered with short, stiff hair out of the hole. Their black-furred bodies with grey stripes on the sides are barely visible, hidden in the dark of the tree hollow.

The predator is coming back to the morass. Proceeding in a stumbling manner, the wolverine carries or pulls the capercaillie hen, holding her neck in its mouth. The animal is so preoccupied with its prey, that a big anthill on its way escapes its notice. When the morning sun began to warm the nest, the caring host workers moved the larvae and pupae closer to the top. But they were not destined to live through the evening. On its way back from the river, the bear has found the anthill, cleared its top of conifer needles and it is now licking up the tasty white contents of its compartments. The beast hears some rustle behind it and turns with a threatening growl...

The dark-furred predator stands petrified. There is no time to climb a tree, so it drops the bird and its fur bristles; its eyes flame with rage and sharp, strong teeth are shown. If the bear attacks, the wolverine will take revenge for its life: knocked over and lying on its back, it will tear the beast's belly with its sharp claws and bite its flesh with its dreadful fangs.

For a short while nothing happens. The animals look at each other. Suddenly, a wave of hideous odour strikes the bear's nostrils. It turns its head away in disgust and sways its huge body, in no mood for a fight. The wolverine stands motionless, producing a low growl. Keeping a close eye on its relative, it picks the capercaillie again and backing away from the anthill it disappears in the swamp.

The last ice sheet melted some 12 to 10 thousand years ago inundating the whole territory of present Lithuania, Russia and Poland. Only the highest elevations, free of water, were able to give shelter to people and animals. The climate started to get warmer rapidly, water evaporated and flowed away in newly formed rivers to join the seas and bigger lakes.

In the so-called Pre-Boreal climatic interval of the early Holocene epoch, some 9,000 years ago, the drying terrain was overgrown by pine and birch forest. The warming continued and growing rainfall about 7,000 years ago stimulated the growth of thermophilic deciduous trees, such as linden, elm, oak, ash and hornbeam, as well as hazel shrubs. Another thousand years later primeval forest, of which the Białowieża Forest is but a remnant, reigned all over Europe.

The human population of the northeastern edge of Europe was decimated during the lake-forming period. Most of them had to seek refuge in the flat-topped hills of the Carpathian Mountains. Long centuries had to pass before people could descend to the drying lowlands. When their number increased, separate tribes set off northwards to the Baltic Sea. At the beginning they sheltered in caves or dug holes in patches of dry ground. They clung to lakes and riverbanks, where they could find enough fish for food. Archaeological finds, such as shells of freshwater molluses and fishbone piled up next to human dwellings, confirm that they used to catch fish. That period is referred to as Mesolithic.

The inhabitants of the forest edges were still too weak to challenge big animals living in the backwoods. They did not use wood nor could cultivate land. The only plants they used were water caltrop, sorrel and pigweed, and there was no need for them to seize forestland. It was the only period in the history of northeastern Europe when nature could follow its own rules. Animals were only hunted by other animals. The number of species depended on their fertility and ability to survive, as well as climatic conditions. In later times, the forest was never so rich in vegetation and

animal life. The paradise was cut and burnt, it kept shrinking from century to century, and one by one species of birds and mammals disappeared forever from the forest.

Palaeozoological studies have shown that two varieties of aurochs, those wild ancestors of domestic cattle, lived in Europe: *Bos primigenius Boj.*, a big aurochs described in the early 18th century by the Viennese professor Bojanus on the basis of preserved skeleton remains, and a smaller aurochs, named *Bos urus interglacialis minutus* and described by the Lvov scientist K. Malsburg, several skulls of which were found in museums.

Big aurochs lived in Mazovia and Lithuania in historical times. They stood 2 metres high, were 3 metres long and weighed up to 800 kg. The still widely used Polish comparison of a strong man to aurochs indicates how powerful the animal appeared to people. We know what aurochs looked like from ancient and medieval drawings and descriptions. It had big, forward-curved yellowish white horns with black upward pointed tips. A male, much bigger than a female, had a muscular oxlike neck, a large, expansible dewlap, heavy forefront and straight back. Their coat was shorthaired, smooth and shiny. Old aurochs were almost black, while younger individuals were dark brown with a light back stripe; calves were light brown or reddish in colour. The coat, short and shiny in summer, for winter grew dense and longer than that of cattle. The muzzle was ringed with some lighter coat.

A characteristic feature of aurochs was a tuft of curly reddish hair on their forehead between horns. That sort of fringe was treated as a talisman if it was cut off a living aurochs along with the scalp, and it was marked on every image of the animal, even on tiny 13th and 14th-century coins. Rulers' wives used to wear an aurochs scalp as a belt and believed it made giving birth easier. The Austrian envoy Siegmund von Herberstein received two magic belts like that as a gift from Queen of Poland Bona Sforza.

He immediately sent one of them to Vienna and it was welcomed by the Empress. Nothing is known of the other belt's fate.

Aurochs were unusually strong animals and, unlike bison, they were very nervous and aggressive. Cows lived in herds with their young, while bulls roamed alone and joined them for a short time only during the mating season in September. Males fought over

females fiercely, often to the death. Calves were born in spring, in April or May.

The present-day beaver family is rather small, with only two representatives: European and North American beavers. The biggest of rodents, weighing up to 45 kg (though 100 kg specimens were reportedly encountered), it is an aquatic animal. It can swim owing to its webbed hind feet and dig the ground with the strong claws on its front feet. Such a unique tail as the beaver's does not occur in any other mammal. Round at its base, it is a muscular, flat scaly tail, sharp at ridges and rounded at the end. It can serve for steering and paddling. When on land, the beaver can rest comfortably on its tail while holding food in its front paws as all rodents do. The Beaver is a strong and thickset animal with a blunt muzzle, very small eyes and small ears hidden in fur. Its large, 10-centimetre, orange-coloured incisors are razor-sharp

and as hard as iron. With tools like these beavers have no problem with cutting trees up to 70 cm in diameter. Their underfur is dense and curly, the outer coat of long, stiff guard hair is rather sparse, ranging from various shades of brown to black. The tail is dark grey sprinkled with blue.

Beavers are excellent builders. They specialize in building lodges and damming rivers or streams, using tree trunks and branches, mud and stones. The building is mostly done by females, while males supply the materials. From a distance a beaver lodge looks like a pile of logs and sticks, but inside it is really comfortable. It has separate chambers for living and storing food. Sometimes beavers live in a burrow in a riverbank, with an underwater entrance and covered with a lot of sticks.

Beavers are strictly vegetarian. The bark, leaves and shoots of willow, alder, poplar and ash, as well as green stems and rhizomes of water plants are their favourite foods. Beaver families store food for winter and they sink some big trees in the vicinity of their homes, so that when the river is iced over and covered by snow they can find their food reserves even in complete darkness. The most difficult season of the year means nothing to them.

Only one species of bear has survived in Europe – the brown bear. The biggest specimens of this solitary animal may be 2.5 m long and weigh over 200 kg. Bears mark their territory by standing on hind legs and scratching tree bark with their claws – the higher the better – to let a potential intruder know with whom it would have to deal. They sleep through the day in a lair in the wildest backwoods and at dusk they go out preying. In totally deserted areas bears are also active during the day. They roam about their domain, scour wild raspberry bushes, catch fish in running streams, rummage through rotten tree trunks and forest debris to find mouse and ant nests, tasty larvae and pupae, roots, bulbs, mushrooms and seeds. Or they just lie in the warm sunshine. May or June is their mating season.

The appetite of bears grows considerably in late summer, when they build up fat reserves in their body. As the year moves into winter, a bear seeks a quiet place to sleep in dense thickets, piles of fallen trees or fissures within rocks. There, in a dry and inaccessible place it builds its lair – a den of branches, grass and leaves, in which it goes into hibernation for long winter months starting from December.

Every other year a female bear sleeping in a lair after a gestation period of about 200 days gives birth to one or two blind and quite helpless cubs, looking like dog litter rather than beasts which will become the largest predators living in Europe. Clinging to the warm fur of their mother and fed as much as they need with her fat, nutritious milk, they do not even suspect that severe winter rages outside the den. When spring comes, lively and mischievous shaggy cubs leave the lair together with their mother to wander through the backwoods. The furry ones never attack humans first. When they feel threatened, they try to run away as quickly as they can, but it is safer not to disturb a female bear escorting her cubs.

Little bears are suckled for four months and remain under the tender care of their mother till the autumn of the following year. It often happens that they stay with their family even longer and help their mother to raise her next offspring. Bears get ready for reproduction in their fourth or fifth year. By then they already lead a solitary life. They are fully-grown physically at 10 to 12 years and if they are not disturbed, they may live up to 50.

Until this day the wolverine has been considered the cruellest predator that lived on Polish land in historical times. The hated animal was killed without mercy by hunters and farmers in Poland. And very effectively, too.

The appearance and behaviour of wolverine was described in the 16th century: 'There lives a voracious animal in Lithuania, called a wolverine. It is as big as a dog, it has catlike eyes and strong claws, long brown hair covers its skin and its tail looks like

that of a fox. When it gets prey, it devours it until its belly swells, stretching the skin like a drum. Then it hides between two trees to empty its bowels and quickly returns to the carcass. And so the process is repeated until the whole prey is eaten up. The animal seems to occupy itself with nothing more than eating, drinking and... All those who wear wolverine furs become infected with such unrestrained lust for food and drink.'

And this is what naturalists said in the first half of the last century: 'Wolverine had no allies, for all creatures which lived in its neighbourhood were its great enemies. Its very sight or smell filled the bigger inhabitants of our primeval forests with utter rage and caused sheer terror and panic among smaller and weaker animals. Even small birds reacted to its presence, marking the path of its escape with their different voices.'

Here follows a description of how game behaved when they saw this relative of the bear, badger and weasel, standing 50 cm at the rump and 1 m long: 'Does, female roe deer and sows collected their young and hid in inaccessible backwoods. An old elk with huge antlers, a participant of many a fight, was becoming restless. His widening nostrils, red eyes and cocked-up ears showed his fury and alertness in anticipation of an attack. Bison, the king of our forest, called the adversary for a combat with a loud roar. The ground around it was already scored by its horns and wet from the foam at its mouth, which clearly indicated its intentions. Even the biggest predator, the bear, could not stay relaxed at the sight of the hated animal and it tried its claws on the surrounding trees, threatening the intruder with a wild growl. Only the mighty wild boar, knowing the thickness of its skin and the sharpness of its tusks, did not care a damn about such an adversary, although it warned other animals of the danger with loud snorting. A cruel predator, the wolverine was a master of defence and the path he ran was marked with the carcasses of dogs with torn out throats and entrails. It had sometimes the audacity to steal sheep, pigs, dogs or even children from human settlements...'

It must have been a real monster if it could make such silent creatures as bison roar. Luckily, the legendary beast was killed off long ago in the Białowieża Forest. According to an old Polish legend, after a wolverine dies, its devilish soul is incarnated as some brutal ruffian.

It is suspected that the last lowland wolverine was killed at the settlement of Janowa Dolina in Volhynia in 1882, and in the Carpathians in 1876.

Few wolverines have survived. They now live in Scandinavia, Siberia and Alaska, providing a classic example of how *Homo sapiens* can be wrong in their opinion on other beings that live around them.

The species of wolverine was the least studied European mammal until the 1950s. We owe the pioneering work dealing with this animal to Professor P. Krott, an American zoologist. In order to become acquainted with the everyday life of these mysterious animals, he and his wife lived in complete wilderness in northern Sweden for 10 years. Krott even domesticated three young wolverines and then let them free. As a result, he wrote a remarkable book entitled *Demon of the Nord*.

The book presents the wolverine as an alert and cautious animal. Brave, agile, swift and resilient, it is active at various times of day and night, with three or four-hour intervals for sleep. It does not sleep through the winter like its relatives the bear and the badger. It preys mainly on animals that are smaller than itself: rodents, reptiles, amphibians, snails, fish and birds. In the breeding season it steals hatch from birds nesting on the ground. In summer it looks for wasp nests and their larvae become its main food. In autumn it feeds on fruits in forest. Only in winter does it hunt for game and turn completely to meat eating. Often following packs of wolves, its ancient enemies, it feeds on the leftovers of their prey. It also has a liking to eating carcass.

Wolverines do not lead a nomadic existence. Each of their families, usually a male and two or three females with their young, has

its own vast area, well-marked with scent signals, where they live and prey and which they defend against rivals. Each female has a smaller area of its own. The animals do not fight over their territories and respect their rights. Every two or three years in February or April females give birth to 2–4 blind and helpless wolverines. They leave their nest after eight weeks; within two years they become independent and have to leave their parents' territory.

An adult wolverine is about 120 cm long, its shoulder height is 40 cm and it weighs up to 25 kg. Females are a fifth of that smaller. Like some other species from the weasel family, wolverines have special glands that secrete an unpleasant-smelling fluid, which they can spout a few metres away.

Professor Krott's studies have clearly shown that wolverines do not deserve the opinion of voracious monsters at all, which only confirms an unpopular truth that in nature there is no monster that would kill without any need. When it is full, a wolverine just like any other animal pays no attention whatsoever to a potential prey, even if it looks very tasty. It never wastes any food, hiding all leftovers under the snow or in the ground, or somewhere in between tree branches. It never fails to find them later and eat up its reserves.

Wolverines love to play. Even old males may for hours enjoy playing with some object stolen from a forest shelter. Krott believes wolverines are more intelligent than wolves. They are clever and quick in learning, able to change their habits and adjust them to the circumstances; they have a keen sense of observation and demonstrate great curiosity.

Local people consider wolverines as pests. They steal calves from reindeer breeders. They are a nuisance to trappers and hunters, for they take away their catch, cunningly avoiding the trap themselves. Using its excellent sense of smell, a wolverine can find meat stored by people, eat as much of it as it wants and then – how awful! – mark it all with its excrement, urine and smelly gland secretion. It is not done maliciously, but to secure a wolverine

the right to the food reserve. Thus in countries where wolverines live, hunters must hang their quarry high up on tree branches or keep it in solid log cabins.

Wolverines are afraid of humans and try to avoid them. Extremely good at running away, they can escape even the swiftest skier. When cornered in its den by tough Lapland herding dogs, a wolverine defends itself long and fiercely. This is about its worst crime.

Werewolf

In the midst of wild swampy terrain lies a sunny clearing hidden from alien eyes by impenetrable primeval forest. A river meanders through its centre, now running swiftly, now flooding wide, forming bends and backwaters. Traces of man are visible all around: paths to the water cleared of alder, oak jetties to which boats can be tied, patches of unharvested crops, a cleared forest edge and a few huts standing low above the ground. But there are no people in sight. A small herd of deer are grazing on a meadow and the only sound that breaks the silence of an autumn morning is the chatter of a pair of ravens on a branchy linden tree. A grey hide of a great wild boar hanging on that tree is soaking wet from rain.

The clan has gone away forever. People did not even wait till harvest time. They put their belongings in their boats and went down the river, chased out by a curse, leaving behind sin, some graves and a desecrated holy place.

Nothing heralded the approach of disaster. The third generation of children born in a forest settlement played in the shade of ancient trees. On warm nights, old men sitting by a riverbank fire told about their great migration, which ended on this forest clearing. At the beginning, the tribe settled on the vast and fertile lowland along the big river they named Wisła and the foreigners Vistula. Divided into clans, peaceful towards its neighbours, the hard-working tribe lived in small settlements of log houses. The local god, Prowe the Thunderer, was kind to people, therefore the soil gave good crops, and cattle grazed on the neighbouring meadows protected by another god, Weles. The tribe no longer remembered when and from where they had come to the banks

of the Vistula, when treacherous enemies sneaked in from the northern coastal land, carrying iron axes and swords. They spoke a foreign language and worshipped strange gods. The tribe had to flee. Each clan collected its cattle from the meadows, gathered their crops and went to the east. At last they found some land enclosed by the dark walls of an ancient forest. They named the lazy river Narew and started to call themselves Neurs. Peaceful years passed; children were born and grew up. Young people left to build new settlements. One such group came across a confluence of two rivers. They boldly penetrated the forest up the smaller river and settled on its bank, naming it Narewka, i.e. 'daughter of the Narew'.

On the Narewka they lived a prosperous life. Their women gave birth to brave sons and pretty daughters, death was not in a hurry to take their elders, bears and wolves left their cattle alone. Green meadows and fields of millet and flax spread all around. The forest yielded

A forest river

timber, honey, berries, mushrooms and small game; the river abounded in fish and birds.

The Three Wisest Elders ruled over the settlement. In summer they resided under a linden tree; in winter they sat by the fire in the biggest hut. Once a year, at the beginning of summer, the Elders disappeared in the forest for one night. None of the younger men dared to follow them. The Elders returned at dawn, looking cheerful and filled with hope. It was a sign that Prowe took their offering.

That year the winter was mild and it was gone just for the return of wild geese. Ice flowed away so quickly that the river did not even flood the riverside meadows. One day the Sages decided that new canoes were to be made before the rise of sap in trees, for the old ones were already in a state of decay. The chosen tree was felled by noon, cleared of branches and pulled from the forest. With a loud splash it was thrown into the still backwater of the Narewka. The log rolled and swayed before it slowly stabilized. The Council of Elders gathered on the bank. They were discussing on which side of the log the hollow for a paddler should be dug out and some other details of construction, when a canoe with a stranger in it appeared on a river bend.

But something was wrong: the current was playing with the boat, now pushing it rapidly forward, now churning, and then stopping it motionless in the rushes. Finally, the canoe floated nearer and the group on the riverbank saw the stranger. He was bent to one side with his head hanging down and wrapped around with cloth, which was dark with blood. The Elders ordered to tow the wounded man to the bank.

The newcomer was laid down on a bedding of hides in the biggest hut. For four days those well-versed in healing wounds changed the dressing, plied the strange man with herbal drinks and cooled him with water from the holy spring, but he did not come to his senses. He thrashed about feverishly on his bed, shouting in some alien tongue, pulling at his precious neck ring of plaited silver and feeling around for his axe against some imaginary foe.

The sick man's belongings were piled neatly in the corner of the room: his clothes, washed and mended by women, and on it his iron

axe, a real masterpiece. The Elders examined its blade, sharp as a blade of reed leaf, and its handle made of some unknown wood, smoothed by use. They nodded in admiration. Among circles, flowing curves and silhouettes of wild boar ornamenting the axe, their sharp eyes spotted a deeply carved X sign. Their god must have been far away, for none of the Wise Men understood the sign, which looked ominous.

The stranger survived. He recovered very quickly and soon he turned out to be the strongest man in the settlement. He was taller than the others and he held his head proudly on his broad shoulders. His curly hair was cut short. He would sometimes sit on the riverbank and stare at its bend. He angrily seized the handle of is axe. With his face filled with gloom and hate he looked terrifying. But even the most bashful maidens got excited when the menace in his face turned into a smile and he asked for a lesson in the tribe's language. He was a clever student. In two moons' time he knew the history of the clan and its journey from the Vistula. He became acquainted with their customs and beliefs. He would never speak about himself; when asked, he reduced himself to silence and turned his head in anger. His name was Moch.

The first disaster struck the settlement when meadows with partridge nests were covered with green. A huge, snow-white wild boar was possessed by an evil spirit, hostile to the Neurs. The beast left the backwoods and burrowed their fields night after night. Fires and guards did not help. Every morning people saw greater and greater devastation of their fields. Their hope for surviving the coming winter was diminishing. The Elders decided that the beast should be killed.

That drove Moch into rage: 'Hands off the boar! Whoever touches it would die! 'But the stranger was alone and the word of the Elders was a command. Young men dug a large pit, which they covered with branches, leaves and earth. While doing that they peeked at Moch, who stood aside, reflecting in gloom. Then he grabbed his axe and disappeared in the forest for several days.

Full moon came. Nightingales sang in the bushes their last song that spring. The boar hide dried out and it was spread on the ground in the biggest hut to warm the bare feet of the Elders. Moch went hunting

every night and brought home the game he killed with his axe. They had never had such an abundance of meat in the settlement. Moch ate with them in silence and went to his empty hut, where the tribe agreed to let him put his few belongings.

That cloudless evening the Wisest Elders took a long time washing their bodies in the Narewka. Then they put on their white robes and holding small bundles they set off to the forest. The clan gathered on the bank of the river and stood in silence, watching the fire made by old women. Even the smallest babies did not dare to cry that night.

Far away amid forest swamps there stood a sanctuary. As the face of the moon emerged from behind a wide oak tree, the sacred place was bathed in its dim white light. On the rim of a grassy circle stood an oval boulder, surrounded by dozens of other big boulders hidden in weirdly

'The Białowieża Forest landscape' by J. Chełmoński

entwined hawthorn branches. Some were flat and sunk in the earth, some towering high. Together they formed a mysterious semicircle opened to the south, with a double route leading to the north.

The milk-white robes of the three men were clearly visible against the black forest as they stood by the oval stone. The man in the middle raised his arms to start the song in honour of Prowe. But instead of the first note, a swishing sound was heard and an axe blade plunged into the old man's forehead. His mortally wounded body fell down softly upon the rock, and embracing it, ceased moving. Suddenly a naked man jumped in a flash, seized the axe and hit the second white-robed, terrified priest on the chest. A bearded giant's shape screened the moon from view. The darkness that fell was broken by thunder. When the pale light returned to the clearing, it disclosed two motionless corpses and it was reflected in the blade of the axe in the killer's hands. His eyes penetrated the darkness among the trees. He listened for any breath of a living being, but the forest answered him with the stillness of death and silence. Only a wolf was howling sadly.

The sun was already high in the sky but the Great Sacrificers did not come back to the settlement on the Narewka. The men deliberated on what to do, their hearts seized by fear and uncertainty. Some of them wanted to run to the forest and look for the sacred stone circle, though it was forbidden. They watched one another closely, but the respect they had for the Elders did not allow any of them to assume leadership. Then they saw Moch coming out of the forest. His right hand held the axe, with the left he grasped two human heads by their white hair. He approached them and shortly announced the new law: from now on he would be the ruler of the settlement and the rest would be his serfs, or *sługs*. Whoever did not comply, would share the fate of the Elders.

Moch moved to the biggest hut. He hung the wild boar's skin on the old linden tree and the two men's heads at his door. People lived in terror and shame. No one took up arms, no one looked for the bodies to bury them with due honours, none of the men asked about the third Wise Man. They carried their heads low and avoided looking at the women that the stranger chose for his nights. Force stood above law.

The moon waned and when it disappeared, a wolf came to the settlement. Big and frightening, it raided the village with its fur bristled and its eyes gleaming in the dark. Jumping unexpectedly out of the darkness, it attacked a young cow or bull, tore their skin and muscles until the guts burst out and slowly departed back into the forest. When the desperate people hurried to save their animals, they heard the vicious howl of the wolf in the swamps. It happened every night.

There was no cattle left in the settlement. A boy sent to bring some water in the morning never came back. They found him at the spring with his throat torn open.

That day Moch spent a long time carefully sharpening his axe with a stone. Through gaps between the logs of their houses people watched him cut a deer hide into pieces. He wrapped the pieces around his arms and legs and fastened them with leather straps. When the night was coming to an end, he slowly walked towards the forest.

In a burrow dug in a sand hollow under the roots of a huge fallen tree, a young she-wolf was licking her pups clean. Their father had drowned under the ice that he stepped on while chasing a roe deer. The mother was left on her own and she didn't always manage to bring some game home. But on that particular day the pups were sleeping with their bellies full. She ran along the edge of the great swamp to hunt for roe deer that grazed on riverside meadows and she returned before dawn with a fawn in her mouth.

The stooped shape of a man sneaked between the trees. His nostrils widened, hunting scents; his narrowed eyes searched for traces of claws and trodden-down grass leaves. The tracks led from the water spring right to the swamp and seemed to disappear. The man turned back and tried to find the track again. Then he saw a broken twig with a drop of blood on it. It showed him the way: the animal skirted the swamp and ran to the west. The hunter quickened his pace, not aware that some dark shadow was following him out of the swamp...

The rising daylight showed the shield of fallen spruce roots and a female wolf lying at the entrance to her lair. The first teeth of her pups scratched her teats and she was licking her aching belly.

Without any warning, death struck her skull with an axe. Leaving his weapon in the dead animal's body, the man knelt at the burrow opening. He reached deep inside with his arm wrapped in hide and grasped a grey pup, struggling for freedom. Then he hit the pup with full force on a nearby tree. He repeated it three times. When he reached into the burrow once more, his fingers did not meet any more fur.

The man straightened up and turned to the dead wolf mother... only to see a great male wolf standing a few feet away, with glowing eyes fixed on the man. The grey beast set on him. Even his silver neck ring was no help. The quiet morning was torn by his broken cry.

In the settlement, people waited three days and nights until they became certain Moch would not return. On the fourth morning they

opened their huts and carried their belongings down to boats. Before the sun went half its way across the sky, they were all gone. The last canoe was passing the river bend, when a great wolf ran to the jetty of the deserted settlement. If only someone had looked back at that moment! A man dressed in a torn and dirty white robe stood on the riverbank and watched his departing kinsmen. It was the third Elder.

The first Proto-Slavic settlement came in two waves of Indo-European peoples, who moved to our land from the west, crossing the Odra River, between 2000 and 1100 BC, i.e. the end of the Neolithic Period. Those peoples, known as the Corded Ware Culture from the way they ornamented pottery, settled the whole west of the present Poland along with Cuiavia and Chełmno Land, as well as Pomerania, building the foundations of the Lusatian Culture in the late Bronze Age. In the course of time they split into many tribes, some of which migrated further away and some remained, taking to land cultivation. Their life centred between the Odra and the Vistula Rivers. In the years 700–400 BC (the Hallstatt culture of the Iron Age) a militant people from the so-called Pomeranian culture started to invade them from the Baltic coast. It was a tribe of unexplained origin, though some researchers attribute Etruscan roots to it because of its human-headed urns. The Lusatian people were forced to leave to the east from the land on the lower Vistula.

The oldest information about Slavs comes from Herodotus, the Greek historian from the 5th century BC. Among the peoples living in the 'barbarous' land, he mentioned the Neurs, who inhabited the present Podolia and Volhynia regions. He wrote, 'One generation before the attack of Darius [on Scythians in the mid-6th century] they were driven from their land by a huge multitude of serpents which invaded them' (transl. by George Rawlison). There are both archaeological and linguistic indications (such river and place names as Ner, Nerki, Nur, Nurzec, Narew and Narewka) that the Neurs first lived in Wielkopolska (Great Poland), from where they migrated to the east along the Bug River.

The Proto-Slavs inhabited the most fertile land. They lived in one- or multi-family settlements and occupied themselves with agriculture and herding, mostly of cattle. They also built forest settlements for hunting and beekeeping, as well as wood tars and charcoal production. They enjoyed a sort of primitive democracy,

ruled by a council of adult men or legendary Elders rather than a single leader.

Researchers agree that the most important deities identified with the forces of nature were the thunder-god Prowe (*Perkun* for the Balts, *Perun* for the Ruthenians) and the carer for cattle, Weles or Wołos. The Proto-Slavs worshipped their gods on hilltops, in holy groves and sacred spots. A classic Proto-Slavic sanctuary was found by archaeologists at Wyszogród. Two iron sickles were found on the cobbled path leading to the place of worship. The holy spot in its centre, marked with a circle of boulders, has two altar stones inside. A male skeleton with the skull evidently hit by some blunt tool was excavated between the stones. Another one, of a strangled young woman, was found near the circle.

A similar stone circle with an altar and a path to it marked with boulders was opened for tourists in the Białowieża Forest in September 1995. It was named the Magic Power Centre.

Ancient burial sites provide some of the more lasting traces of our ancestors, where archaeological excavations have greatly contributed to our knowledge of prehistoric times. To various known burial methods belong stone and wooden vaults inside a hollow in the ground, where bodies were placed together with offering vessels and the personal possessions of the dead, and which were then covered with huge boulders or a few layers of small stones. It is hard to find such graves today, especially in the lowlands. Here, due to the lack of rocks, the local people used such piles of stones as building material for houses and their own cemeteries.

Some ancient graves in the form of mounds, or tumuli, have been preserved in the Białowieża Forest. They stand in groups from several to a few dozen and have the shape of a truncated cone with a base nearly 20 m in diameter. Most of them are washed away by rain and overgrown by trees. Others have been dug up by seekers of 'treasure'. There are some clearly visible mounds on natural elevations and dunes, e. g. those near the eastern edge of the village of Białowieża, on Góra Batorego (Batory

Hill), and in the vicinity of Czerlonka and Hajnówka. Some are also hidden in less accessible places: the strict reserve near the Dziedzinka forester's lodge, on the Łutownia River and at the confluence of the Narew and Braszcza in the Browsk forest division.

The first archaeologist to take an interest in the Białowieża burial sites was A. Goetze. He made excavations in the northern part of the Forest in 1918 and recorded 46 sites with 428 tumuli. Some of the explored graves contained skeletons, others consisted of urns containing ashes. There were also graves containing only charcoal and ash. In 1959 the grave of a child from the 3rd or 4th century AD was found in the Hajduckie range.

The Białowieża grave-mounds were an object of research directed by I. Górska in 1976. 30 burial sites with 184 graves were registered in Białowieża National Park. Another ancient settlement was discovered by archaeologists near the source of the Narewka River, at the western edge of the Dziki Nikor swamp. Scientists date some of the mounds to the first centuries AD. Others, found at the western edge of the Ladzka Forest, are younger (10th–12th century), which indicates that the converting of pagans in the Lithuanian wilderness must have been a slow and relentless process. Apparently, those people were unwilling to abandon the customs and beliefs of their forefathers too soon.

According to some naturalists, the number of mounds implies that the Forest was heavily populated in the Middle Ages. This thesis is quite wrong.

The chronicles by Jan Długosz contain an interesting description of the religion and customs of the Samogitians. Following some reflections on holy groves, which were not supposed to be profaned, he wrote, 'In the aforementioned forest houses and families had separate fire sites, where the bodies of their nearest and dearest and other relatives were burnt along with their horses, saddles and better clothes. On October 1st they had a great celebration in the aforesaid forest. All the people – men and women – from the whole neighbourhood gathered here. They brought food and drink, each of

them according to their estate. They made a feast and for several days they gave offerings to their false gods, in particular to the deity they called Perkun, i.e. 'Thunder in their language'.

Since Samogitia bordered on Prussia (and Sudovia), Latvia and Lithuania, and their inhabitants – which was pointed out by Długosz – used a similar language with Perkun as the principal deity in Lithuania, it may be presumed that their funeral customs were similar. If so, the Białowieża Forest appeared to them as a monumental, everlasting and sacred necropolis rather than a mere forest with a lot of clearings inhabited by farmers and with local burial sites next to every settlement.

I can imagine the inhabitants of an ancient village on the Narew carrying a bier with their relative's body on it into the deep wild forest. There they pile dry wood beside the existing mounds and when the fire burns out, they collect the remaining bones into an urn. Then they build a mound where the bier stood and place the covered urn with ashes on its top. From then on the deceased is sheathed in snow, plied with drink by rain, lulled to sleep by singing birds and wind, and his road to eternity is lit by the sun, moon and stars.

From time immemorial the Slavs believed that some people – by their own magic powers or when put under a spell or curse – were able to turn into wolves. Such beasts, or werewolves, could not be won over by any gift. They could only be fought with by means of special charms. Quoting the Scythians and Greeks, Herodotus claimed that every Neur turned into a wolf once a year.

The Celts, also known as Gauls, who penetrated a great part of Europe from the 2nd millennium BC to the 1st century BC, were first mentioned by Greek literary works around 500 BC. The Celts exerted a great political, cultural and economic influence on the ancient Greek and Roman civilizations as well as on the primitive peoples north of the Alps for more than five centuries.

The greatest expansion of Celts took place in the 4th and 3rd centuries BC. They reached as far as the Polish land, which was con-

firmed by archaeological finds of Celtic settlements in the south of the country, Małopolska (Little Poland), Cuiavia and even in Mazovia. A few words from their language have been preserved in Polish, e.g. *sługa*, from the Proto-Celtic *slougo*, meaning 'servant'.

Diodorus Siculus described the Gauls as follows: '... They look appalling, their voices are very sharp and deep. When speaking, they use words sparingly, making mere allusions and leaving a lot to be guested. They like to brag and make threats. They wear golden jewellery and neck rings...'

Neck rings, or torques, were an attribute of the power and dignity of Celtic warriors. Those collars made of iron, silver or gold were inflexible open loops of twisted metal bars with ends in the shape of animal heads.

Ammianus Marcellinus wrote: 'a whole band of foreigners will be unable to cope with one of them in a fight, if he calls in his wife, stronger than he by far and with flashing eyes; least of all when she swells her neck and gnashes her teeth, and poising her huge white arms, proceeds to rain punches mingled with kicks, like shots discharged by the twisted cords of a catapult' (transl. by John C. Rolfe). According to ancient writers, some warriors fought naked, wearing only a neck ring and belt. This is how they are presented by famous Hellenistic sculptures.

A decapitated human head was the Celts' favourite motif in art. As we read in Diodorus Siculus, 'They cut heads off the killed enemies and have them carried in front of themselves. The most important of those heads is then fixed to the wall of their house, just like hunting trophies'.

The descriptions of primitive beliefs, mythology and rituals of those people are a reconstruction based on a number of relatively

late ancient sources. It has been established that apart from gods, the Celts worshipped animals and trees. Totemic animals included the deer and horse, and also the male wild boar (*moch*). Its significance is proved by an exceptionally large number of its images in arts connected with cult and beliefs, as well as excavated burial sites of boars. The Celts were ruled by druids, a caste of learned men and priests, whose symbol was a white wild boar. They applied the law of 'geasa' by imposing a magic taboo on individual people, concerning for instance a ban on killing certain animals or eating certain foods. For committing a crime such as murder, the druids sentenced the guilty man to death or at least banishment. Badb, the female deity of the battlefield, was presented as a raven.

Iron smelting from the commonly found bog-iron ore and the skill of its forging formed the economic basis of Celtic civilization. The fact that not many peoples had mastered the production of iron by the mid-5th century BC explains the military successes of the Celts, who were armed with iron weapons such as swords, knives and axes. Celtic blacksmiths perfected the art of forging, etching relief ornaments with acid and the inlaying of precious metals in iron. Among the great variety of curves and tangles ornamenting their weapons, there were motifs of animals and plants and some magic symbols, often hidden in less exposed places. X, associated with the god Smertios ('Death'), is a sign amazingly often found on Celtic sculptures, pottery and weapons. It was also cut on axes with which old people were killed.

The Destruction of the Sudovians

The blizzard persisted. A swirling, white curtain hung between the earth and the sky, obliterating the view of the dark forest on the right bank of the Narew River. The north wind carried more and more heavy snowdrifts towards the river. A group of people were struggling through deep piles of snow along its middle. They proceeded slowly but stubbornly, led by two armed men. Women followed with wrapped up, whimpering babies or bundles of belongings on their backs, several bigger children toddling behind them. Last in the

'A Snowstorm' by L. Wyczółkowski

procession were men pulling loaded-up sledges. One of them stopped from time to time, listened for something and looked with approval at the snow quickly covering their footprints. Hours passed and they went on marching. It was hard. Before the evening the snowstorm stopped and the wayfarers saw the confluence of the Narewka. This river, flanked by the black walls of the forest, would lead them south. Their hearts were reassured. The wind was now at their back. It became easier to walk and the dark, thick woods promised to give them shelter. They neither made a camp nor set a fire. They spent the night hiding under spruce branches capped with snow. In the morning they ate some dried meat and unleavened bread and had some snow for a drink. Then they carried on their march along the frozen river. They pushed on through the snow for four days until they reached the wildest backwoods surrounded by frozen swamps. There, they left the Narewka and made their way through piles of fallen trees till they came across a small river.

Soon some shelters were built on the ground cleared of snow. Women busied themselves with the housework and boys ran to make holes in the ice to catch fish with fishing spears. Men went hunting.

The wolves had their feast the night before. At twilight the strongest male, with a long howl, summoned his comrades scattered in the forest. When all had gathered, they started to look for prey. They set out silently, in a line, combing the forest till they found fresh big hoofprints that led to the alder fen. The pack dispersed. When the bison felt the danger, it was too late. They were already surrounded by wolves. At first, the predators ran at some distance, now and then emerging from the trees to block the passage of the herd of bison. Taken by surprise, the bison huddled together and lowered their heads, ready to repel the attack. It was launched by the most agile and aggressive wolves. Carefully watch-

ing every movement of their adversaries, they approached dangerously close to their deadly horns and hoofs. A huge bull was the first to take up the challenge. It lifted its tail and rushed towards its attacker. The wolf managed to evade the bison, which saw a chance to escape and dashed to freedom. Another bison followed, but the rest did not make it. The wolves closed their ring again. After a while another wolf encouraged one more bison to a charge, only to let it escape. When eventually only two female bison were left within the circle of wolves, the predators attacked one of them, biting her rump, legs and muzzle. The other one was let free and ran away to join the herd.

The bison path cut the wild forest, with giant trees forming a canopy and many others piling on the ground, blown down by gales. The hunting men saw the tracks of wolves on the path. First, the predators followed one another. Then suddenly the tracks formed two flanks, which meant that the wolves had surrounded their prey.

They found a cow lying on the bloodstained snow. The wolves were gone to digest their meal in peace, but they would come back in the evening. A fox was hovering around the carcass and a raven was cawing high in the trees. Frightened, it stopped abruptly and flew away, breaking off a dry branch from a great oak. For a moment the fox was petrified; it looked in the direction where the branch had fallen and resumed his interrupted meal.

Darkness was enveloping the forest when a grey shadow ran soundlessly near the carcass and disappeared. After a while it appeared again. Stiff and alert, a wolf approached the dead animal. It sniffed the smell of fox urine and began to tear the skin from the animal flesh. Soon other wolves joined in. The silence was broken by their growling and howling and the crushing of bones. All of a sudden, long spears with iron points were thrown down from several sides at the animals devouring their prey. Some wolves were pinned down to the ground; others tried to run away, but the poles of spears caught on bushes. The hunters jumped down from the trees to kill off the wounded predators.

In early spring the smell of melting snow and wet soil was vaguely mixing with frosty air. Small birds sang and at night the passionate call

of lynxes luring their females was heard deep in the forest. A group of hunters emerged from the bend of the Leśna River, still ice-bound. Women noticed from a distance that they were pulling the loaded sledges with great effort and the voices of the men sounded merry. It meant they had not returned empty-handed. To the amazement of the women, instead of piles of meat and hides, a living tarpan horse was lying tied to the sledge on a layer of spruce branches. A young mare, saved from a lynx's claws at the last moment, looked with sheer terror at the human beings, not even trying to get free. Blood was oozing from the dressed wound on the animal's shoulder.

In a short time spring flowers offered their fragrance to the busy bees and pastures among the forest turned green, bringing joy to tarpans. The young mare with a scarred shoulder dogged the footsteps of the forest-dwellers. Petted and fed with delicacies by the children, she grew large and filled out. When she was left alone in her enclosure, she neighed loudly, calling her friends.

For many days the men were building a tall, narrowing fence of poles, with a gate hanging over the entrance. At last the trap was ready. When the wind and rain had cleaned it of human scent, the mare was brought in, tied up and left alone. The men kept watch.

When a herd of horses came to drink water, they heard the anguished cry of the mare. The leader of the herd stopped and listened with widened nostrils. Then he turned back and trotted against the wind to an oak wood. Younger stallions followed him, as did the rest of the herd. With every metre the neighing was louder and the air became filled with the odour of a mare in heat. The horses started galloping. They saw the opening in the enclosure and the herd slowed down, flocking together. Three stallions and some mares managed to force their way in. When the first stallion was running up to the tied mare, his hoof hit the pole which was hanging low above the ground. This made the gate go down with a bang.

In midsummer the construction of the settlement on the river was finished. Four squat houses were built of stripped logs, insulated with green moss, with thatched roofs of thickly laid reeds and bulrush.

A willow and bulrush thicket shielded them from the river, while from the forest side they were safeguarded by a heap of fallen trees. The first flame of fire set in the household was offered to the god Patollu. Then women cooked a *snike*, or ceremonial dinner, and the senior of the clan began to sing a song in honour of their forefathers. There was nothing urgent to be done that evening.

The men left the settlement on horseback and fully armed, quickly disappearing from view. They came back a few days later, loaded with goods looted from some distant human settlements. In the huts, new dishes appeared on the stones surrounding the cooking fire: by the side of thick-cut wooden bowls and pails and clay pots, shone pewter goblets, plates and jugs and copper pots and pans. Pallets filled with hay were covered with finely woven fabrics.

The warriors could now get some more sleep and feast. They boasted of their courage and cunning. They hunted alone for entertainment and for meat, killing the finest of deer. But when the moon grew big enough to lighten their path, they mounted their horses and set off on another plundering expedition. Many a time the women stayed on their own with children before the late autumn hoar-frost covered the ground.

But finally their luck ran out. Most of the men never returned from their last raid before winter. Their corpses were left on far-away battlefields. The youngest warrior, the hope of the clan, was wounded and taken captive.

A thick layer of snow covered the ancient forest. All paths that could lead enemies to the settlement which was hidden among the swamps were covered too. Its inhabitants almost never left their houses, eating whatever reserves they had

amassed in the summer. Thus, even a skittish roe deer could pass by without fear. On one still and sunny day the youngest warrior walked back to the settlement. Poorly guarded, he had managed to escape. He walked by nights, hungry and freezing, till he reached his home. They warmed him and fed him and then he told them about his adventures late into the night, resting on wolf hides. At last everybody fell asleep. The full moon was hanging over the silent, white forest, when a sword was thrust at the settlement. A band of armed warriors in iron helmets and carrying leather shields raided the dwellings, leaving but burning ashes and dead bodies scattered on the snow. The wolves were the first to get the news...

The first information about the Prussian tribe of Sudovians was given by Ptolemy in the 2nd century AD. A more detailed description was provided by Ibrahim ibn Yakub, a merchant who travelled to the Slav land in ca 970. From the late 10th century (Duke Vladimir's campaign against Sudovia took place in 983) the tribe was ever more frequently mentioned by chronicles as an ally or adversary in neighbourly wars fought by Mojsław, Bolesław the Brave, Bolesław the Wry-mouthed, Bolesław the Curly and Casimir the Just, only to disappear from historical annals forever in the 14th century. The latest historical studies have shown that Sudovia lay between the Niemen, Świsłocz and Narew rivers. It was defended by the old stronghold of Raj until it was seized and destroyed by Polish knights. Sudovia was separated from the Slavs of Ruthenia by a 100 km wide belt of primeval forests and swamps cut by numerous streams, a no-man's land. Ruthenian settlement developed south of the Narew. But the Sudovians raided Podlasia as well. The fortresses of Drohiczyn and Brest were built in the borderland to protect local people from Sudovian invasions.

Forests and swamps were home to the tribe of brave hunters and warriors, the Sudovians. They built their settlements and strongholds in the most inaccessible forest ranges near rivers. Some of them occupied themselves with agriculture on areas cleared of forest, or cattle and horse breeding, some with warfare. They covered great distances along animal paths, fallen trees and tree branches to attack local people unexpectedly. Their raids plagued the neighbouring lands from the late 12th century. Fighting the Sudovians was extremely difficult. As the saying went, 'A fortress for Christians is in an open field, and for pagans in a dense forest'. A unit of knights taken by surprise in the middle of a forest was crushed by spears and stones coming from everywhere.

Apart from such guerrilla warfare, the Sudovians also sent expeditions of their cavalry to distant countries, armed with swords, spears, helmets and mail armour. Members of the tribal

aristocracy, already a distinct social group, fought within its ranks. Owing to their weapons and experience in war they could even meet western knights in open battle. Most often, a squad of rascals, as they were called by their enemies, was formed by the leader's relatives and friends. Quick and skilful, soon attacks on the weak became their source of income. The loot was loaded on wagons or sledges, which were always taken on such expeditions, while captives, horses and cattle were driven beside them.

Warfare and plunder was a regular occupation of all the peoples that lived around the Białowieża Forest. In a way it replaced trade, by prompting the flow of goods, slaves and land from hands to hands, even though unpleasant for one of the sides. Plundering expeditions were made not only by the Sudovians, but also by Poles, Ruthenians, Lithuanians and the Teutonic Knights – against one another or against the poor Prussian tribes. But the Sudovians, who kept their tribal and kinship structure as well as pagan beliefs, were unlucky to have been surrounded by adversaries who were better armed and more numerous, and had a state system and religion.

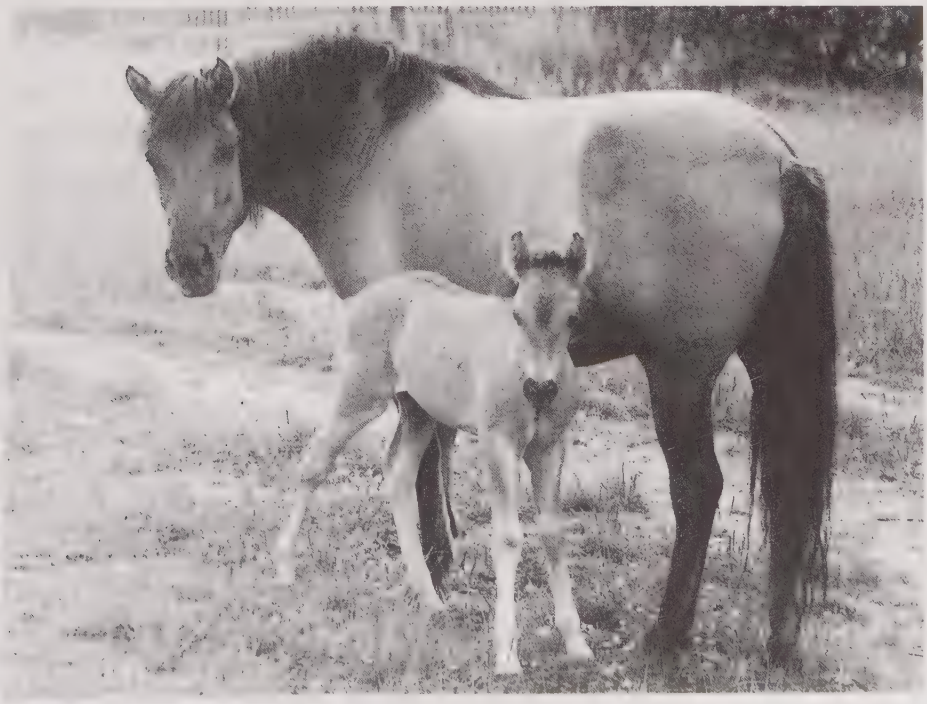
Długosz informs that in 1260 the baptized Lithuanian Duke Mindaugas reverted to paganism. He gathered a huge army of some 30,000 Lithuanians, Prussians, Sudovians and Samogitians, with whom he first ravaged the principality of Mazovia and then the property of the Teutonic Order. After a cruel slaughter of people, he took cattle and other loot back to Lithuania.

A year later in winter the army of Christians from the Polish Kingdom, aided by the Germans, Teutonic Knights and other crusaders, launched a military attack on the land of Lithuanians, Samogitians, Sudovians and other pagans, in order to destroy them completely with sword and fire. A gruelling battle was fought and 'thanks to the justice of God, who punished the crimes of the Christians, the barbarians emerged as victors'.

In 1264, after the death of Mindaugas, Bolesław the Chaste, the duke of Cracow and Sandomierz, organized an armed expedition

of knights from all his lands 'because of the direct neighbourhood and too frequent invasions by the barbarian Sudovians on his principality'. In the bloody battle which took place on the 14th of June the Sudovian leader Duke Komat was stabbed to death with a dagger. Długosz writes, 'In that battle nearly the whole Sudovian tribe and nation was slain, so that for the really sparse survivors, that is peasants or sick people, those who subordinated to Bolesław's rule or united with the Lithuanians, even the name of Sudovians was lost. Bolesław the Chaste and his warriors seized all their land and cattle, of which they possessed a great many, as well as the remaining property. He ordered everyone to be baptized and accept the Christian faith; whoever delayed it was punished with death'.

The Teutonic invasion of Sudovia in 1274 followed by nine years of planned extermination of the population in the Mazurian Lakes as far as Merecz and Kovno (Kaunas) led to their complete



Polish tarpan-like horses

annihilation. At the same time also the Galicia-Volhynia state under Daniel Romanovich started a murderous war against the Sudovians. Sudovia was finally defeated in 1283. Their land was razed to the ground and only forest grew on it for the following hundred years. The last remaining Sudovians hid deep in the present Białowieża Forest on the Narew River. They were killed off by Poles, Lithuanians and Ruthenians whenever spotted.

In 1422 the Treaty of Melno divided the former Sudovian lands between the Teutonic Knights and Lithuanians. That line of division remained the eastern border of Prussia until the Second World War.

The 700th anniversary of the final extermination of the Sudovian people, somewhere in the 1990s, passed unnoticed. Not a single candle was lit in their memory.

Wild tarpan horses lived in central and eastern parts of Europe in the glacial age. They were rather small and light, standing about 135 cm at the shoulder, with a large head, wide skull and arched snout. They had a mouse-grey or greyish yellow (dun) coat, turning to lighter for winter, and a short, curly, dark mane. A black dorsal stripe ran the length of the back to the tail. They were tough and resilient, able to survive a harsh climate, alert and timid. They lived in herds led by the strongest, most aggressive and dominating stallions. Though tarpans were hard to domesticate, they were nevertheless caught and used for riding. According to some historical records, a number of wild horses were caught specially for the Lithuanian cavalry which took part in the war with the Teutonic Knights in 1410.

Some researchers claim that initially tarpans lived on open and semi-open grassland, or the steppe and forested steppe, before they were forced by humans to seek shelter in the middle of the forest. Others insist it was a typical forest species. It is possible that two subspecies of wild horses existed: a steppe and forest one.

Tarpans survived till modern times only in the Ukrainian steppe and in the border forests between Poland and Lithuania. They were already very scarce in the Middle Ages. Despite their protection (the Lithuanian Statute of 1529 introduced capital punishment for killing this rare animal), tarpans died out. They were killed for meat and hide, caught for riding and crossbreeding with domesticated horses, and caught by poachers. From the 15th century they were kept in game enclosures as very rare animals by Polish, Lithuanian and Teutonic dignitaries: at Malbork and Sztum by the Grand Masters of the Teutonic Order, at Königsberg by Duke Albert and at Troki by Duke Vytautas of Lithuania. A living tarpan was sent as an Easter gift to Komtur von Jungingen by Komtur von Balga in 1403. Judging from a generous

Mares from the Białowieża breeding centre

tip the groom who delivered the horse obtained, it must have been a precious gift.

In Poland tarpans living in the wild survived longest in the Białowieża Forest, where they still lived in 1728. In Lithuania the last specimen died in 1788. In the steppe of south Ukraine the last small herd of tarpans was killed off by the local population in the 1870s. The last wild mare was brutally chased and caught by local peasants just for entertainment before Christmas in 1879. They took her to their village, but the mare had a broken leg and died within a few days.

Single specimens of forest tarpans were caught late in the 18th century and transported to the game enclosure of Count Zamoyski near Zamość in the Roztocze range of hills. Around 1806 they were given out to local peasants, who crossbred them with domesticated horses, thus producing a primitive breed of small Biłgoraj horses. The last few real tarpans from Zamoyski's horse-breeding farm were sold to a Lvov circus. The fact is now admitted very reluctantly, for they were treated with great cruelty. Once, a lion was set on them to entertain the audience, who praised their courage.

For long years not a word was said about tarpans, until in 1914 two students Jan Grabowski and Stanisław Schuch described some peculiar horses they found in villages near Biłgoraj. Apparently those could be descendants of the wild horses from the Zamoyski family's 'zoo'.

In autumn 1935, Professor of Poznań University Tadeusz Vetulani directed an appeal to the State Council for the Protection of Nature, in answer to which the General State Forest Management resolved to establish a nature reserve at Białowieża with a view to reproducing a wild horse known as the forest tarpan.

The horse-breeding department of the Ministry of Agriculture made the local district authorities of Biłgoraj organize special roundups of small horses on 3 to 5 February 1936. The team of

researchers was directed by Professor Vetulani and the Viennese zoologist specializing in horses, Professor Otton Antonius. To the first roundups at Biłgoraj, Frampol, Smulsko Duże and Majdan some very fine tarpan-like horses were brought, but the professors were not easily satisfied. It was not until the last-day of the roundup at Tarnogród that they saw the horses of their dreams. They were small, mouse-grey with dark dorsal stripes, almost matching 18th-century descriptions by the Russian scientists Gmellin and Pallas.

Five mares and one stallion were selected and bought. The valuable merchandise was immediately carried to Białowieża, where the horses were closed within a 4-hectare reserve in the Gródek forest division at midday on 9 February 1936.

One more tarpan-like stallion joined the herd: the vigorous Liliput, purchased by Professor Vetulani in 1927 at Jasiennik near Biłgoraj and owned by the Polish Academy of Arts and Sciences in Cracow. It was kept at the experimental farm of the Jagiellonian University at Mydlniki. Along with him came his inbred 4-year-old son (and grandson at the same time) named Tref, born at

Portrait of a 'tarpan'

Mydlniki – the first horse in the 20th century whose coat colour changed to white for winter.

All mares and stallions knew their job well. In 1939 the herd amounted to 40 horses, including 5 stallions, 14 mares and 21 foals, and they were moved to a bigger enclosure.

When the war broke out, five horses were staying outside the reserve. Tref, called 'the white horse of Herodotus' (the historian described wild horses that become white for winter, living in the legendary Amadoca swamps in the present Białowieża Forest), was at the Poznań Zoo. He was killed in an air raid in 1945. At the initiative of Prof. Lutz Heck, director of the Berlin Zoo, and his brother Heinz Heck from the zoo in Munich, 20 of the most precious horses born before the war and 12 born during the occupation of Poland were taken away to Germany. Nine of the remaining at Białowieża died or perished. The senior, 20-year-old Liliput was slaughtered by the Germans for meat and hide in 1940. Only the skeleton was left to the museum. His daughter, Liliputka II, also whitening for winter, was shot (and eaten) in April 1944 by the forest inspector at Zwierzyniec named Schulze. Seven tarpans survived the war, including two from the Biłgoraj region: a mare called Grażyna and a stallion called Goraj. In 1946 their number increased to 15, which gave some hope for the reproduction of the breed.

When Białowieża was taken over by the Polish administration, the breeding farm with the few remaining bison and tarpans was supervised by the Ministry of Forestry led by the communist leader S. Tkaczow and directly by J.J. Karpinski, manager of the Forestry Research Institute department. The animals were under the veterinary care of V. Demiashkewich, a 'Soviet specialist from Mińsk', as Prof. Vetulani described him. He was assigned for this post by the Soviet occupation authorities back in 1941.

There is no accurate information on whether the horses robbed by the Germans were returned. Popular publications about the Białowieża Forest do not mention that any tarpans were

ever returned to Poland. Two pieces of information were found in scientific works. According to the first, in 1948 owing to the efforts of the Bureau for Vindication and War Reparations of the Polish Republic the stallion named Prut returned from Germany to be used as a stud in the Białowieża herd. The second comes from Roman Prawocheński, one of the best Polish specialists in horse breeding: 'Luckily, a few horses were left in the Białowieża reserve and a considerable amount of the valuable breeding material taken away from Poland by the Nazis was recovered from Germany after the war, owing to which a few dozen mares and stallions were saved'. The horses' homecoming was supervised by the engineer Z. Chroboni. They were initially placed at the Kochcice estate near Lubliniec, then at Grodziec Śląski near Bielsko and finally at Puławy. From Puławy they returned to Grodziec. In 1952 the stud was moved to Raba Wyżna and then to Popielno. This is neither the first nor the last inconsistency of authors in citing facts connected with the history of the Białowieża Forest and its animals.

About the same time when the horses were being brought back from Germany, Prof. B. Bocheński claimed to have found in southeastern Poland a group of several mares and a stallion from prewar breeding farms. He bought the horses, which were also said to have a history of constant removals from one state farm to another. They might have simply been the horses returned from Germany. Perhaps someone tried to cover the tracks leading to Germany. Bocheński's horses were carried to the Pisz Forest and entrusted to the Central Horse Breeding Board.

Nobody knows why the interest of the authorities in further reproduction of Polish horses in the Białowieża Forest slowly dwindled. The stallion named Gordyj along with eight mares were taken to the newly established experimental farm of the Polish Academy of Sciences at Popielno near Olsztyn in 1955. According to other sources, some mares from Białowieża were already there a year earlier.

Today, apart from Popielno, a number of Polish tarpan-like horses live in the Roztocze National Park and the Seven Island reserve on Lake Oświn, in the animal reserve of Białowieża National Park, in zoological gardens and open-air museums, as well as in stud farms such as Kobylniki, Dobrzyniewo, Sieraków and Manieczki. Some single specimens are in private hands.

Perkun

The old King Władysław Jagiełło was pleased on his return from hunting.

The plague that spread through the Kingdom of Poland had reached the Grand Duchy of Lithuania, too. Right after Christmas the king took his pregnant queen Sophia (Sonka) and several loyal hunting companions out of Vilnius to the forest. They stayed at Białowieża, in an old manor house which remembered the times of Gediminas. There was no need to worry about the health – and life – of his first-born son Władysław, hiding from the plague at Chęciny Castle, and the king could spend his time hunting for bison, aurochs and other noble game.

On that day the weather was good for hunting. A pack of hounds was unleashed; the dogs tracked and cornered a big animal. Their mixed barking was heard from afar. A team of horsemen followed the dogs into the wildest backwoods, jumping over windfallen trees and forcing their way through dense forest. A single bison stood there with lowered head, surrounded by barking dogs. The bull

had lived in his mother forest for 17 summers. His countless offspring grazed in forest clearings, fought with wolves or were killed by royal hunters, and he persisted. Massive but cautious, he escaped all chases. He lived alone, as he could not stand the bad-tempered and rebellious character of younger bulls in the herd. He stood still and steady as a rock. Only his reddened eyes carefully watched the dogs circling around him. No hound was brave enough to attack the giant. With bristled fur and tails tucked in, they ran round the bison, calling their masters for help in a choir of wild trebles.

The masters came galloping, their horses beating the ground with their hoofs and breaking tree branches. Seeing his true armed enemy, the bison did not wait to be surrounded. Despite the dogs, which in the presence of their masters became as valiant as to cling to the bison's fur, the animal charged at the nearest rider. Startled by the sudden attack and the beast's size, he failed to move away. The deadly horns were nearly touching his horse's belly when he was rescued by the king. Rather small and thin but well formed, Jagiełło had thin grey hair around his clean-shaven face, black restless eyes and an aquiline nose above his mouth with a full lower lip. He was dressed quite poorly in a short goatskin coat, with his long, shapely neck and the neckline of his linen shirt visible in its slit. He pulled the reins with his left hand till the horse reared up, wielding an ash-handled spear in his right hand. Then he lifted it over his head and struck with enormous force and precision. The blade went smoothly between two vertebrae and cut the animal's spinal cord. But the charging bison managed to hit its target and both the rider and his horse fell down. At once they were surrounded by people, who pulled the dead animal away and put the mount upright. It was a wonder that aside from shock and some bruises neither the horse nor the man were hurt.

The king stood in the background with a wry grin on his face. His mouth, set between two furrows carved by bitterness, voicelessly repeated the word 'decrepit'. That was what he heard whispered behind his back and in the corners of the rooms of Wawel Castle from the day he turned 74. He heard it when he wiped his ageing eyes and

when he secretly munched wild pears, 'unfit for a ruler' but smelling of his dear motherland. The poisonous word haunted him even when, in defiance of the Poles, in the autumn of his life he married and solemnly crowned a Lithuanian, his beloved Sonka, and when he let tears roll down his cheeks at the news that she gave birth to his son. He heard it said with disdain and derision when the queen got pregnant again. The same word was blurted out angrily by Zbigniew Oleśnicki, who had been trying to grab some power from the king for years. Now he traded the crown of his firstborn son to make the monarch bestow more freedoms and privileges on Polish barons and church dignitaries. Only here in his native forest and surrounded by his dear friends could he be himself: the great Jogaila, a Lithuanian duke from the family of Gediminas. In the eyes of his companions he saw unswerving loyalty, love and admiration, so he openly took something concealed under his coat. It was a lock of his own hair he kept from the last haircut. Slowly and carefully he began to wind and unwind it between the index finger and thumb of his left hand. He smiled cheerfully imagining Bishop Zbigniew seeing that. What false fatherly contempt would his fat and haughty face show at the sight of King Władysław, a Christian for forty years, still performing his filthy and stupid pagan sorcery...

Jagiełło's team returned to Białowieża noisily in a happy mood. Laughing and joking about the bad luck of the man who 'instead of striking down the bison, struck down his horse to hide behind it', they hardly noticed that their lord had left them and disappeared in the forest. They knew their master's habit of lone all-night walks in the forest – as he said – to listen to nightingales or check if geese were coming back. No one dared follow the great Lithuanian's steps.

Before they saw the dark walls of the wooden manor house, the king had joined them again. His dark eyes burned with concealed impatience and his face seemed younger with a strange, enigmatic smile on it...

A bear holed up in its lair under a huge fallen tree late in November. Autumn gales buried it under leaves and winter storms covered it with

snow. The shaggy animal woke up from its dreams of bees and honey only to rearrange its great body to a more comfortable position, when it heard crazy barking, scratching and loud sniffing just over its head. Three young dogs from the royal pack found the lair. The rest of the dogs ran after the bison. Still sleepy, the bear was recovering consciousness with difficulty. But the yelling was getting louder and the sleepiness faded away, so the bear raked its covering aside and jumped out of the warm lair, a ruffled wild beast. The terrified dogs ran away yelping.

With an angry growl the bear lay down again but sleep would not come. From a distance the tumult of royal hunters was heard and daylight irritated the bear's eyes. It also felt a sudden ravenous hunger. So it left the lair and went forward. Woe to any living creature it meets on its way!

In the faint winter daybreak light a man dressed in a short goatskin came out of the royal stable. He walked cautiously and silently, leading his black stallion on reins. Weapons for fighting bears were fastened to the saddle. When the sleeping manor was invisible behind the trees, he stopped for a while, turned around three times, broke a straw three times and threw it back. Then he mounted his horse and started galloping, now and then urging his horse on to the lair he found when he was roaming the forest the day before.

'Decrepit', something murmured in Jagiello's ears. He urged the horse to go still faster. In a moment the decrepit would measure his strength with a bear!

Deep in the backwoods his path was blocked by a fallen spruce. The rider dug the spurs into the horse and jumped, but the animal caught its hoof on a jutting branch and fell headlong to the ground. The rider was flung with force, his head hit the trunk and one leg got entangled in tree branches. The horse stood up and limped towards his recumbent, motionless master, touched his cheeks and his closed eyes with its soft nostrils, and peacefully started to nibble on the nearby hornbeam shoots.

The king regained consciousness. He opened his eyes and clenched his teeth, feeling an excruciating pain in his head. He lost conscious-

ness, regained it and lost it again. He tried to stand up, but in vain. His broken leg gave no support. Struggling with dizziness, he managed to lift his body to a half-sitting position, rested his back on a spruce log and waited patiently for some help to come.

Something cracked in the neighbouring bushes and a shape loomed there. The horse raised its head and put its ears down, jumped into the air and ran away in panic. King Władysław stared at the dense wood, fighting with blind spots before his eyes. He recognized the massive

Perkun, a natural snow sculpture

shape swinging from side to side. His aching head registered a chance for a meeting of two monarchs that he was dreaming of. The bear slowly approached the wounded man and their eyes met.

Something strange happened with the Lithuanian. He did not lose consciousness. He saw the whiteness of the snow around him and the dark tree trunks. He could feel the coarse bark under his back. But in front of the bear's head he saw a black-bearded human head and he heard a lordly voice saying, 'Why did you destroy the faith of your forefathers?'

One by one images appeared and faded before the king's eyes. He saw himself 26 years after the conversion of Lithuania, how he destroyed the paganism of the Samogitians. He stood on the holy mountain on the Nevezis River and himself pulled down the tower on the top of which the eternal fire for Perkun burnt. He put out the fire. He ordered the Polish knights to cut down holy groves, violating the rights of proud animals, and to destroy altars and images of idols. He ignored the punishment: the breaking of his legs by evil spirits. He knew that the promises of the elders, presented with gifts of fine fabrics and gold, who swore to 'abandon their gods and holy offerings and join the strongest God of the Poles and Władysław', were false. So he told his men to take water from the Nevezis and flood the sacred place to the height of an adult man's mouth, so that the eternal fire could never be set again. He saw the stern Kiezgajłło, a Lithuanian lord put in control of the Samogitians, as he pursued and persecuted 'those who declined to accept the yoke of the holy faith'.

Then the image changed. He was walking through a grove by the road to Tulcza; the royal coach followed him along the muddy tract. Suddenly the bright and clear sky became stormy and dark. Lightning struck down from the nearby mountain, killing the four horses that pulled the coach and two servants supporting its sides and sparing the coachman, a Lithuanian. The king's steed and eleven other mounts were also killed. The lords ran towards the monarch, who stood deafened and trembling. He kept silent for a long while before he confessed that the terrible event was his fault. But he did not finish explaining why his right hand was struck: it was the one he raised against the sacred fire of Perkun.

The images disappeared. Only the whiteness of snow and a furry animal remained in front of his eyes.

Jogaila stared into space and spoke. He told about Jesus and Mary whom he came to love with all his heart, about the order of armoured knights, who ravaged the 'pagan' realms of Perkun for nearly two centuries with impunity, using the holy sign of the cross. He also told about the alliance of Christian armies led by the Polish king, who broke

the power of the Teutonic Knights. He continued the story about the price Algirdas's son had to pay for the existence of Lithuania and Samogitia, about the distant Cracow full of intrigues and the Poles unfriendly to a stranger. He told about the beautiful Queen Jadwiga, who became his wife though her heart belonged to another man. He mentioned the humiliations he suffered from the lord of Wawel Cathedral and the enemies in his own family. He spoke about his first-born son and the happiness he achieved in his declining years from the Lithuanian woman Sonka. He said how he loved the Forest and Białowieża. At last he stopped and lost consciousness again.

The bear stood in silence and stared at the king for a long time. Then it slowly turned and went away.

Meanwhile at Białowieża the king's team mounted horses and equipped with torches they started to look for Jagiełło together with dogs. Late in the evening the king's stallion returned from the forest limping and without his rider, the weapons still fastened to the saddle. Queen Sophia cried in despair and hurried the team. Then she waited at the manor gate ignoring the cold.

They brought the king at dawn. Nobody said anything of what they saw in the forest and what Jagiełło told them.

The province of Podlasia, in the 13th century owned by Volhynian dukes, included such towns as Bielsk, Mielnik, Drohiczyn, Brest, Kobryń and Kamieniec and their districts. It was independent until the times of Gediminas, who incorporated it into Lithuania. The first powerful Lithuanian ruler gave Podlasia together with the Białowieża Forest to his younger son, Kestutis, as an addition to Iroki. His elder son Algirdas, Jogailas's father, got the remaining lands of the Duchy of Lithuania. Kestutis left Podlasia to his son Vytautas. In 1377 Lithuania came under the rule of Jogaila, later known as Władysław Jagiełło. Striving against Vytautas, in 1390 he gave the Drohiczyn region with Drohiczyn, Mielnik, Suraż and Bielsk to Kestutis's son-in-law Duke Janusz of Mazovia. Podlasia was limited to the Mielnik, Drohiczyn and Bielsk districts, the regions separated by primeval forests from Ruthenia. Those districts inclined towards the Polish land as strongly as Poland claimed them. The Brest land became a separate entity belonging to Lithuania. The Białowieża Forest in its later historic borders was part of the Brest province, and its western border divided the Polish Crown from Lithuania.

The locality called Białowieża was first mentioned by Długosz in the 10th book of his chronicles under the year 1409, when King Władysław Jagiełło accumulated reserves of meat for the Battle of Grunwald. Many contemporary publications inform that the hunting lasted for long months and the meat thus collected met the needs of the great allied army, suggesting an unheard-of abundance of game in the Białowieża Forest at that time. Let us consult the chronicles by Jan Długosz: 'Having made all the preparations for the future Prussian war, the Polish king Władysław goes from Brest to the Ruthenian Kamieniec in the company of the Grand Duke of Lithuania Alexander. From Kamieniec the King went hunting to Białowieża across the Ślna River, while the Lithuanian Duke Alexander proceeded to Lithuania. And the Polish king stayed at Białowieża for eight days, busy hunting. At that time he killed a lot of game, which he ordered to salt in bar-

rels and send along the Narew and the Vistula rivers to Płock to be stored for the future war (...)' A little further we read, 'He spent his Christmas at Luboml'.

At the beginning of Book XI, under 1410 AD the chronicler wrote, 'King of Poland Władysław spent his Christmas at Luboml and afterwards he left for Lubochnia, Tur, Sąck and Ratno, and began to hunt strenuously again, ordering to save the hunted game for the Prussian war'. The King hunted almost till the end of January and was never satisfied: 'On Wednesday after 19 February the Polish king Władysław went from Sandomierz to Przyszów (near Tarnobrzeg) and started hunting again, killing many forest animals like bison and elk. He filled fifty barrels with their meat and sent them by water to Płock in order to be stored for the future battle'. Władysław Jagiełło hunted till mid-March. Thus, his seven-day hunting at Białowieża was just an episode in his hunting season of 1409–1410.

A commentary is necessary. Firstly, if the Białowieża Forest had really had such inexhaustible game reserves, the King would not have wasted his time looking for other hunting grounds. Secondly, it is naive to think that Władysław Jagiełło was the only supplier of meat for the reserves needed to provide food to the army during its many-week march to the site of the great battle with the Teutonic Order. As he only had his small team and primitive weapons and nets, his one life would not suffice to hunt in all forests in the Crown and Lithuania. It can therefore be supposed that the provisions hunting took place in many forests simultaneously and the keen hunter as he was, the King visited some of the most attractive grounds for bison and elk. For Długosz those were just uninteresting details, or he simply did not know the precise data (so he wrote 'a lot of game'). When describing Jagiełło's hunting, the chronicler always tended to write 'the Polish king killed many animals'. But he also wrote that 'he built a wooden parish church in one day' and strangely enough no one seems to believe that.

There are various and sometimes fantastic speculations on the origin of the name Białowieża. The adjective *biały* ('white') repeats in many names in northeastern Poland and it may have some connection with snowy winters. One of the rivers in the Białowieża Forest has been called Biała for centuries. In Belorussian *Belowes* means the Biała river vanishing in the forest. The name Białawieś (White Village) is mentioned in the diary of the historian and poet, Bishop Adam Naruszewicz, who described the stay of King Stanisław August Poniatowski for hunting in the Białowieża Forest in 1784.

King Władysław Jagiełło, whose Lithuanian name was Jogaila, was born ca 1351. He was baptized and given his Christian name on 15 February 1386. From 11 to 19 November 1413 he converted the Samogitians by force. In August 1419 on the way to Tulcza in the Poznań region, the royal retinue was struck by a lightning (in Lithuanian, Perkun, the highest pagan deity). On 24 February 1422, at 71, Jagiełło married 17-year-old Sonka, or Sophia Holszańska, duke Vytautas's niece. On 5 March 1424 Sophia was crowned Queen of Poland and on 31 October the same year King Władysław Jagiełło's firstborn son came into the world, named Władysław, and after his death nicknamed Warneńczyk. In February 1426, as Długosz notes laconically, 'busy hunting for bears at the place called Białowieża, he broke his leg by accident'.

Władysław Jagiełło's sarcophagus

At 83, in late April of 1434, the king developed a high fever after a cold night spent on listening to nightingales near Medyka. He died peacefully at three o'clock in the morning of 31 May and was buried in Wawel Cathedral.

All events described in this chapter are based on the *Annales seu cronicae incliti Regni Poloniae* (Annals or Chronicles of the Famous Kingdom of Poland) by Jan Długosz. It should be noted, however, that the great historian was a protégé and admirer of Zbigniew Oleśnicki, Bishop of Cracow, and he disliked Lithuanians, King Władysław and other Jagiellons. Thus, describing the deeds of Bishop Zbigniew and those of King Jagiełło he was far from objective. But to his acerbity we owe a very pleasant and human portrait of the Lithuanian king on the Polish throne.

For many centuries hunters considered it an act of great courage to kill a bear with a spear or javelin. Although it was ever harder to meet the animal in the areas of human settlement, it commonly occurred in the vast Lithuanian and Polish forests. Two varieties lived in the Białowieża Forest: the big black-furred bear and the brown bear.

In the course of time these bear contests were becoming more and more perverse. In the 16th century the Lithuanian lords caught Białowieża bears, packed them into boxes and sent them all the way to Niepołomice Forest near Cracow in order to win the favour of King Sigismund the Old and his wife Bona Sforza, a distributor of distinctions, offices and royal demesne. The King was fond of entertaining his foreign guests, who where amazed to see a panic-stricken hungry bear being let out of a box and teased with dogs, while a crowd of nobles hurried to jab the poor beast with spears. One such eccentricity ended unhappily for the Jagiellonian dynasty. In 1525 an exceptionally big bear tried to escape its execution and attacked its oppressors. First it knocked over the horse of the famous jester Stańczyk and then it ran after the pregnant Queen Bona on her horse, which bolted, fell down

in the bushes and landed on the Queen. The bear was killed by peasants posted in the bush and the bruised and battered Queen was driven in a coach to Niepołomice castle. King Sigismund sneered at the unknightly lack of courage on the part of the big-headed jester, to which he heard some bitter truths from him: 'It is a bigger jester who, having a bear in a box, lets it out causing harm to himself'. On that evening of 20 September Queen Bona gave birth to a premature boy who died within a few hours. Christened Olbracht, he was buried at Niepołomice. After the King's death the infant's remains were put into his coffin at Wawel, perhaps not to let him ever forget about his 'entertainment'.

Bear chasing must have been really exciting, for it lasted through dynasties and the changing nationalities of the monarchs on the Polish throne. The ritual got even more elaborate.

A description of the most unusual hunting is found in the diary of King Stanisław August Poniatowski. In September 1752 as a 20-year-old he stayed at the 'Polish Versailles' of Hetman Jan Klemens Branicki at Białystok. Also King Augustus III came, enticed by the promise of great fun.

'For a few days the Grand Hetman hosted the king and his whole retinue. Among other attractions, he arranged a great entertainment exactly to his taste at Choroszcza. A great quantity of wild animals were transported to the pleasant local woods in cages. They were raced along a narrow footpath made of boards running between two walls up to the tops of trees growing on the canal, where trap doors were set. Through these trap doors the animals plunged into the water from a height of thirty feet, which gave the king an opportunity to shoot at whatever he wanted: wolves, wild boars or bears. Hunting dogs waited below the trees to chase the animals on the ground or in water until the king wished to shoot at them. One bear saw a boat and climbed up its front to escape the dogs. Young Rzewuski, the Marshal's brother, and Mr. Saul, the chief Saxon foreign officer, huddled at the stern,

where the rower stood, but they lost their balance and made the boat somersault. The bear was thrown into the air for the second time and it fell into the water next to the gentlemen. It all ended in just a little scare, but their adventure was great fun for the king'.

Years later, a Podlasian nobleman named Franciszek Biłgorajski wrote down the reports of other witnesses of that event, i.e. 'the old

'King Stanisław August Poniatowski' by M. Bacciarelli

Master of the Hunt Kardyński, Master-of-Horse Kaczorowski and some other seniors at the Branicki family estate, as well as the rifleman who killed the bear and related everything in detail'. But their view differed.

'It happened that the King came to Białystok very weak and the doctors did not let him go hunting. Branicki decided to arrange hunting in the gardens, so that the King did not get bored. The spacious game enclosure was full of deer and fallow deer but they needed some bigger game. The three-day roundup in the Saxon Forest bordering with the Białowieża Forest six miles away from Białystok filled the garden enclosure with bears, wild boars and elk. From there a lane was made of rope fences, through which the game was raced to the upper garden. The upper garden was divided from the lower one by a canal, across which a high bridge was made and each animal had to pass through it. Stepping on a trap door in the middle of the bridge animals fell down into the water. The king, sitting with his favourite minister Saul, a man of fashion wearing a huge wig, shot at the falling animals. In this manner he killed a lot of game but when a great bear appeared, he missed. The angry molested beast, instead of going to the dark ranges of the lower garden, swam towards the royal boat and overturned it. Both the King and Saul fell into the water. The huge wig of the latter surfaced first and the bear rushed to catch it, roaring with fury. Whenever it tried to grab the wig with its paw, it slipped away. This saved the two men's lives, for in the meantime riflemen managed to shot the bear playing with the wig. The scare and the bath turned to cure His Majesty pretty soon but the minister was sick for about a fortnight.'

Who is to be believed: the prince or the nobles? I believe Mr Biłgorajski.

33 years after the entertainment at Białystok, Prince Karol Stanisław Radziwiłł called 'Panie Kochanku' (My Darling Lord) received at his Nieśwież estate that aesthete and patron of fine arts, a friend of scholars and the host of sophisticated Thursday dinners, a perfumed and powdered ladies' man, Stanisław August Poniatowski. His contemporaries claimed the king was not fond of hunting and target shooting, which was not quite true. One day after dinner, safely hidden in a high lookout, he took the trouble to shoot and murder bears let out of cages right in front of him. Next day he watched with great satisfaction a deadly fight between an elk and a bear on a small closed arena. He 'hunted' in a similar way in the Białowieża Forest from 31 August till 2 September 1784. He sat on the balcony of a pavilion built in the 'Hunting Garden', or the Wielka Kletna (Kletnia) game enclosure. A detailed report from the event is found in the diary of the king's protégé, the poet-aesthete Adam Naruszewicz. He noted under Tuesday:

'The first hunter, Berens, gave a signal by trumpet to start the chase. A great bear appeared, let out for shooting, but it soon disappeared in the bushes. Some time later we saw another bear. HM the King shot and wounded it, but the beast was gone to the forest. It was later found killed. Then a third bear was let out. His Majesty shot at it and several other rifles shot at it at the same time, so it was killed still at the fence.' By the way, two bison were also killed accidentally.

On Wednesday, another hunting scene was arranged, 'similar to yesterday's but the pavilion was a bit smaller. First, a cold breakfast was served of cheese and smoked and roasted meat'... then they shot two more bison and one elk and went back to Białowieża for a 'wonderful late dinner'. Some historical documents preserved in Vilnius before the last war listed the alcoholic beverages delivered for that wonderful dinner by a wholesaler from Brest, Herel Davidovich. They included: 260 bottles of English beer, 30 bottles of arrack and 20 of liqueur, altogether worth 825 złotys. It is probable, though, that not all of that was served on the royal table, since Poniatowski disapproved of drinking bouts, and some of the drinks might have been pilfered by the forest management with the Master of the Hunt Jan Klawa on top.

On Thursday after breakfast 'HM the King went to the nearby field behind the manor to watch a fight with four big bears. They were let out from cages one at a time. Mounted riflemen stood around the site and several men with spears protected His Majesty. The first two gladiators did not resist the pack of several dogs too long. The other two defended themselves bravely, especially the last and biggest one, which stayed long at the arena, but it was also defeated'.

Bears were also killed in open forest, mainly with constantly improved firearms. They were ambushed at their winter lairs and by the fields of unripe oats, a delicacy for bears, or caught in traps of pits covered with tree branches.

In 1830 it was noted that 'no more elk and black bears are left in the forests of the Kingdom of Poland, but they occur in great numbers in the Białowieża Forest'. One of the bears is said to have killed five bison before it was caught in 1846. Tsar Alexander II believed that predators were the cause of the diminishing num-

'Bear-Hunting' by J. Fałat

bers of herbivores. He solved the problem once and for all by ordering to kill off bears in the whole territory of Russia. Their extermination proceeded fast because of the value of bear furs. The last three bears living in the Białowieża Forest died between 1873–78. Some sources even claim it was in 1861 or 1871. A single specimen came from Polesia in 1879, but it was of course soon killed by hunters.

Before the outbreak of the Second World War a totally unsuccessful attempt was made by the State Forest Management

to reintroduce bears to the Białowieża Forest. On 8 November 1937 an adult female bear named Lola, born in Belarus, was brought from the Poznań Zoo. Three weeks later, four several-month-old bears: Ryży, Grubasek, Białka and Czarna were brought from the western part of Soviet Russia, where they were bought. In the following year another four were brought, the oldest of them being a male of 2.5 years. Unfortunately, neither their origin nor earlier life was known. At least some of them may have been earlier trained for circus. In January 1938 Lola gave birth to twins.

The acclimatization of lowland bears in the Białowieża Forest was aimed at making the young and domesticated animals gradually adapt to independent life. The bears were kept in a cage deep in the forest, from which they were to be released when they became sufficiently wild. The newborn bears were small enough to go out between the wires, so they could freely leave to the forest and come back to their mother. They were supposed to become self-sufficient and Lola was to return to the zoo.

The bears that were left in the wild were not to be fed; they were meant to find their own food in the natural environment. It was strictly forbidden to give them any food. Forest workers were threatened with getting the sack should they break this ban.

The first two bears were set free on 11 April 1938, the next two 20 days later. That started the series of ridiculous events that the oldest inhabitants of Białowieża still remember.

Strangely enough, bears – no matter whether they live in captivity or in the wild – feel some unexplicable sentiment towards people, even though they treat these animals most cruelly. Both serious works on the relations between the human species and bears and legends, as well as religious beliefs all over the world point this out. Although terribly dangerous when angry, bears are tamed easily and they develop a feeling for their trainer, even if he fastens a chain to their nose and makes them dance on a red-hot metal plate.

The first four semi-domesticated bears were doing extremely well in the forest, but they were far from breaking their bonds with man. They visited local cottages and their pantries in particular, drinking all the milk in store. In the Dziedzinka forester's lodge they entertained themselves with ripping open feather quilts and pillows. They confiscated packed lunches from woodcutters on the clearings and stopped villagers at Białowieża and shepherds on meadows demanding food and caresses. The phone at the forest management office never stopped ringing, so many reports and complaints about the wild bears' behaviour were made.

Bears paid a high price for their confidence in people. The female named Czarna (Black) left the Starzyn forest division and across fields and forests she wandered as far as the Omeleniec meadows in the Bielsk Podlaski division. There she was attacked by the villagers from Grybel, Smolatyn and Klatkowo. Badly hurt with her left leg almost cut off, while running away through pastures she trampled a lamb to death. The angry peasants rounded her up and massacred her. Therefore, her companion, the young, quiet and equally trusting Ryży (Ginger) was quickly caught and transferred to Warsaw Zoo as 'unfit for life in a forest'.

On 3 July three other bears were set free. The oldest male remained in captivity, for he was considered to be too aggressive. People hoped that the abundance of ripe berries would keep the bears in the forest and they would have time enough to become wild again.

Their fate can be reconstructed from the notes in the postwar diary of the long-serving national park director, J.J. Karpiński. '...nothing is heard of the female named Białka, the bear called Grubasek stayed in the forest, but he fell ill after he was severely beaten up by the female elk Baśka and the caretakers in the elk

reserve, where he sneaked in and drank all the milk prepared for elk calves. Three other small bears released in July behaved in the same way as the first four and they met the same fate: after some time they were not heard of any more. Probably they were killed when stealing food from village farm houses'.

Simultaneously with the release of those young bears from captivity, Lola was mothering her twins, Jaś and Małgosia, born in late January 1938. The bear site was arranged in the range No. 317 in the middle of the strict reserve of Białowieża National Park, midway between the Droga Browska road in the south and the Hwoźna River in the north. On the edge of a small clearing surrounded by thick forest with dense undergrowth, a caretaker's lodge was built (its foundations of brick and concrete are said still to exist). Caretakers watched the bears' behaviour day and night. In the middle of the clearing stood a cage of two parts 5 by 5 m each with a wooden pallet 3 by 3 m in size. Bears were only approached by assigned park employees, who gave them food at 7 a.m. everyday. Their meals consisted of beef broth with potatoes, rusks, vegetables and apples, plus milk with honey at midday and in early evening.

By the end of summer Jaś and Małgosia got so independent that they left for two-day lone expeditions and almost stopped taking food from their mother's cage. The cage was reinforced to cut them off on the outside. As the bears could not come close to their mother, they accepted the situation and their visits became less and less frequent until they stopped coming altogether. Late in autumn they built their own lairs and went to a long winter sleep. They came back to Lola's cage at the end of March 1939, so the female bear was moved to some distant place. Małgosia was last seen in May 1939. Some unconfirmed news about Grubasek came from the opposite side of the forest.

That was practically the end of the story of bear reintroduction in the Białowieża Forest. The fate of three very young bears which were living in the wild when the war broke out remains unknown.

I was not able to find any precise information about what happened to Lola. Prof. Karpiński wrote in 1949 that an adult female with two young bears was seen in the strict reserve, suggesting it might have been Małgosia with her young. But he said the same in August 1945. Perhaps it was simply wishful thinking of the director, who wanted to stress the exceptional value of Białowieża National Park. T. Szczęsny was probably of the same opinion, writing sceptically about bears at the turn of 1945/46: 'a male, a female and two young bears allegedly reside now in the Forest'.

During the German occupation, at Goering's command, trained bears confiscated from the Gypsies were reportedly let into the Białowieża Forest. Some people remember two such bears having been shot at that time and one or two caught by poachers. Reports of finding a track of a lonely bear in 1949 and 1950 were not confirmed by the source article by Prof. Karpiński.

In recent years some voices have been heard calling for the reintroduction of brown bear in the Białowieża Forest. This seems irresponsible. Any sane person who knows the present circumstances, i. e. population density, the level of the forest's thinning and deformation, constant presence of local people, forest employees and tourists in the forest, as well as the biology and habits of bears, will never support a scientific experiment which could end in tragedy both for people and the animals. The consequences are easy to foresee.

Zwod

When the last carpenter had collected his tools and the servants had cleaned the yard, a fire was made in the massive kitchen stove to cook the first supper at the new residence. At the site of the former house, which looked like a peasant cottage rather than a nobleman's seat, now stood the walls of shining pine logs, covered with a high roof, whose battens still smelt of resin. The front wall facing the morning sun had a dark oaken main door, thick and well fixed. A waxed canvas in the iron bars of the windows let dim light inside. In the spacious vestibule opposite the brick chimney the walls were decorated with hunting trophies, weapons and nets, and the oak floor was lined with the hides of wild animals. On the left, the servants lived in small chambers behind the kitchen, on the right was a great hall with valuable carpets on the walls, with the lords' rooms, chambers and two corner extensions behind it.

A defensive tower of oak logs more than fifty feet high stood on one side of the building and further crowded domestic outbuildings, with a well and sweep reigning in the middle of a vast yard. The whole was encircled by a palisade of pointed oak stakes and reinforced with an earthen rampart and a thick fence the height of a man. The entrance was protected by a gate embossed with iron studs. Squatting outside the palisade were some thatched cottages built of brushwood and clay. A mill on the nearby river was visible between some trees and a view opened further away on fields, meadows and woods.

On fine days the meandering Lsna River could be seen from the top of the tower, as well as lordly coaches, merchant caravans and herds of cattle vanishing in the dust on the tract from Brest to the nearby

Kamieniec, and further north, towards the black strip of the forest closing the horizon.

The lord of the stronghold Jan Golimont closed the heavy lid of his box with iron fittings and turned the keys in its two strong locks. On its bottom, under the most expensive clothes, jewellery and a well-filled money bag, lay a rolled parchment with the signature *Casimirus Rex* and the date 1481 AD on it, accompanied by a seal depicting His Majesty sitting on the throne with the royal insignia in his hands and surrounded by eight coats of arms of the Crown and Lithuania lands.

A lot was rumoured and gossiped in the vicinity for the past year. King Casimir, Władysław Jagiełło's son, endowed the Golimont family with the Zwod stronghold, the site of which was settled illegally by their ancestors a century before. To that he added numerous 'entries' to the Białowieża Forest and Jan – it was unbelievable! – was granted the lifelong privilege of hunting for big game. People saw Golimont, a poor man, become rich overnight, although he neither held any office at the royal court nor fought in any remote countries. There was no end to speculating and fantasizing about magic and some treasure dug out in the forest. Only the most inquiring minds saw the coincidence of such an unexpected twist of Jan's fate with the miserable day of 15 April 1481... And those preferred to keep silent.

That winter Lithuania was in turmoil. King Casimir Jagiellończyk assigned 'his man', a simple boyar loyal to his king, named Ivan Chodkiewicz, instead of the proud magnate and Algirdas's descendant, Michał Olelkowicz, to the post of the voivode of Kiev. The Lithuanian lords blazed with anger. At secret meetings they listed their 'harms and insults', dragged up offences and claims. They were hatching a plot against the king's life...

Right after Candlemas Day the royal family came to the Białowieża Forest. The old manor house, which remembered the times of Władysław's

hunting, filled with life and noise again. Those of the old servants who used to hunt with Jagiełło, looked with amazement at the king, so much resembling his great father. Though a little taller, he had a similar oval face, and dry, almost bald head. He spoke with a slight lisp. He preferred hunting in Lithuanian forests to anything else and, like his father, he did not care about heat or frost and discomforts. He did not like strong drinks and hated strong smells. He was not proud but demanded respect for his person. He was extremely generous both to his friends and the Cracow *alma mater*. He differed from his father in one thing: while Władysław dressed in modest linen clothes and sheepskin coats, Casimir liked his splendid royal robes. It was rumoured in Poland and Lithuania that when he greeted his fiancée in 1452, his horse's apparel alone was worth 40,000 złotys. He never missed costly knight shows and tournaments and arranged them to celebrate the successive baptism and wedding ceremonies of his children.

Good company, frosty weather and abundance of game cast aside all the king's worries. A little known young man, Jan Golimont of Zwod, became his favourite hunting companion. He was a master in tracking lynxes, setting nets for wolves and seeking out an aurochs fit for a royal hand. Only he knew in which part of the backwoods this already very rare inhabitant of Lithuanian forests was hiding.

After the successful hunt for small game, the Jagiellon felt the desire to kill an aurochs. The royal team set out for an encounter with the forest giant in the backwoods on the Orlanka River. They soon reached the site where tracks in the snow led to the oak wood across the river. They approached silently and carefully. But then they felt a nasty odour of rancid fat, and instead of a furious bull ready to crush everyone who stood in his way they saw the filthy, swollen carcass of an aurochs. Such a miserable end of a giant was a bad omen and a warning to the king!

Towards the end of the winter envoys came to King Casimir from the nearby Kobryń. A grand wedding ceremony of Kniaz Fedor Bielski and Duchess Anna Kobryńska was going to be held on Palm Sunday. The bride and bridegroom kindly reminded the king about his promise to add splendour to the event by his presence. Queen Elizabeth and

her ladies-in-waiting, who were already bored with their life in the depths of the forest, got excited. The old manor's doors were almost constantly opened for the coming merchants and envoys.

Three days before the ceremony, a poorly dressed boy entered the royal stable looking for Jan Golimont, who soon after left Białowieża unnoticed, without asking for permission...

Kobryń castle was ruled by chaos. The upholsterer from a foreign country instead of hanging tapestries and canopies was sleeping completely drunk in his room. It was not until one of his many assistants took over the lead that the work started rapidly. But no one paid attention to his strange behaviour: pretending to decorate the rooms he ferreted about in every corner, looked under window sills and listened secretly at the door of the distinguished hosts and their guests. When no longer needed, he disappeared on the evening before the wedding.

The Jagiellon's retinue was ready for the journey to Kobryń. They were only waiting for the king. Jan Golimont arrived in the courtyard, relaxed and walking slowly, though he looked tired and worn-out, as if he had been hunting all night through. He went straight into Casimir's chambers. Time passed. The retinue and the royal princes were getting impatient. Finally the door was opened and the king's valet went out to announce the sad news: His Majesty the King had suddenly fallen ill. His lower back was strained when hunting and he was not able to rise from bed. Queen Elizabeth was taking care of him. The king ordered the envoys to run quickly to Kobryń with the message and gifts, so that the holy rituals would not be hindered.

On the following morning the distinguished newlyweds were woken up by the sounds of battle. Fedor rushed out of bed, grasped his clothes and jumped through the window without saying goodbye to his duchess. He went away and was gone for ever from her life. Others were less lucky. The royal guards crushed the rebellion and captured the conspirators against the king's life. The weapons found under window sills and behind tapestries were piled outside. The traitors were duly punished and King Casimir never again raised his hand against an aurochs.

The beginnings of regular settlement in Podlasia and the gradual decline of the primeval forest go far beyond memory. The main belts of settlement ran from the southeast, with successive villages and strongholds cutting into the forest: Kobryń, Dobuczyn (Prużany), Bielsk and Tykocin. Major trade routes to Vilnius were developed. The settlers cleared the land of forest and built their farming settlements without registering them or paying any tribute in money or in kind to the royal treasury. Each of those settlements included the adjacent hunting grounds, beaver colonies, watercourses for mills and fishing, beekeeping and logging forests, and meadows needed for their own use. The whole area, called 'entry', was defended from strangers by fortifications. In later times, apart from lawless settlement, legal settlement was also made, bestowed by rulers on people for their merits, which however did not include the right to hunt.

Under Duke Vytautas the first attempts were made to form the public treasury out of received tributes. The forest, which yielded meat and hides, honey and beeswax, became a state domain, but it was not until the reign of Sigismund II Augustus (1548–1572) that uncontrolled settlement was replaced by rationed colonization. Owing to the control over spontaneous settlement and directing it along the northern and southern edges of the Białowieża Forest, it remained a compact forest complex, unlike other sister forests, which were cut by villages and fields until they were completely deforested. According to the preserved documents and records, in the 16th century the territory of the Białowieża Forest was more or less the same as today and in 1552 it was inhabited by 277 families.

At that time the forest was not yet exploited by monarchs for timber, but great hunts took place here every winter, which provided entertainment and martial training for the barons, as well as meat for their courts. Since the number of game was decreasing fast, special backwoods areas were set apart by acts issued by the royal and ducal chancellors to be excluded from settlement and

bestowal. They were to serve exclusively as game areas used for hunting by successive rulers.

The bestowal of the Zwod estate (now Zvody Vialikie on the Lutaya River in Belarus) on the Golimont family by King Casimir Jagiellończyk (1447–1492) was confirmed by the Isajkowski Ordination of 1639.

The plot against the king's life – one of eight such attempts made by Lithuanian lords – is a historical fact. They planned to murder the king and princes and to imprison Queen Elizabeth. 16th-century records say that warned by an upholsterer, Casimir pretended to feel exhausted after hunting and never appeared at Kobryń. As the proof of their guilt was absolutely clear, the conspirators were severely punished. On 30 August two Lithuanian dukes, Michał Olelkowicz and Ivan Holszański, were beheaded. Fedor Bielski spent the rest of his life in Moscow at the court of Ivan III, the instigator of the plot.

Tombstone of King Casimir Jagiellończyk

The earliest historical mention of aurochs living in Poland dates from 1107. The chronicler Jan Długosz writes that an aurochs tossed the cupbearer Sieciech, throwing him a few times to finally drop him into the bush, half-dead and crippled.

The royals hunted only for males. Aurochs were usually chased with beaters and shooters, who drove the animals with the help of hounds out of bushes and towards narrow passages, where hunters equipped with spears were waiting.

Under 1422 Jan Długosz notes that 'King Władysław Jagiełło, after giving his thanks to God and making solemn vows at Poznań, went to Mazovia through Pyzdry and Szadek; and at Wiskitki he hunted for forest bulls called bison or locally aurochs'. The valuable trophies from such hunts were then kept in the treasury at Wawel Castle, where two aurochs horns set in silver were registered in 1475. The National Museum in Cracow has a real aurochs horn set in silver given to King Sigismund the Old by salt miners from Wieliczka in 1532. Legend has it that aurochs horns filled with wax were used as torches in the dark shafts of the salt mine.

The chronicler of the Council of Constance (1414–1418), Urlich von Richental, mentions a sensational gift offered by King of Poland Władysław Jagiełło to King of Hungary and Roman Emperor Sigismund of Luxembourg on 16 February 1417. It was an entire aurochs, shown in the chronicle in an excellent illustration appended to the description:

'On Tuesday after St Valentine's Day our king received a huge animal caught in the Lithuanian land and sent by the Polish king. The king ordered three such animals to be brought alive from Lithuania, but when they reached Cracow, they were not suitable for further journey to Constance because the fetters they were kept in made them go wild. The king had them killed and two were stored in barrels, while the third was left in one whole in its skin, only the bowels were removed. It was preserved with salt and good spices. The barrels with aurochs meat were sent by the king to the bishops and lords of his own country who represented

him at Constance, while the whole aurochs was received by our king, who in turn presented it to the English king. The beast looked like a huge ox, only its head was bigger and measured one foot between the small sharp-pointed horns. Its neck was thicker and shoulders broad, while the tail was short. The animal resembled an Italian buffalo. It was carried lying on a wagon, with its legs up. In Constance more salt was added to it and it was shipped on the Rhine River to the English king. When it was being carried out of Constance, a trumpeter preceded the wagon, so that everyone saw it. The man who piloted the transport from Lithuania to Constance said that it cost 400 Hungarian florins.'

The chroniclers said nothing about the culinary sensations of the English ruler at partaking of the quite worn aurochs flesh

when it arrived in London. However, some descriptions from the time of Sigismud III Vasa have survived.

Giovanni Paolo Mucante, the secretary of Cardinal Gaetano, was a member of the diplomatic mission sent by Pope Clement VIII to the king of Poland. Under the date 13 September 1596 Mucante wrote in his diary about an unusual dish the guests at Ujazdów Castle were served: 'On Saturday the king sent 30 fat oxen to the kitchen of His Excellency the Cardinal, as well as a grey animal called aurochs; they say it is wild and extremely dangerous. The king keeps them together with other animals in his game enclosure two miles from Warsaw. Before they killed him, they took a scalp from its forehead and sent it to the cardinal assuring him of its great virtues. I ate the meat at the car-

dinal's table; it tasted like ox meat but was a little darker and harder'.

The aurochs died out because of some epidemic diseases that decimated wild animals as well as hunting, poaching, catching its calves for domestication and the decline of primeval forest. From the 13th century forests were cut by busy tracts leading in many directions, along which great herds of cattle and sheep were driven. Domestic animals were grazed on forest meadows around human settlements. That spread disease, for when they died of

some epidemic, they were thrown away in the forest for predators and cathartids. The diseases that later afflicted bison and were diagnosed by veterinarians indicated that aurochs might have been killed off by epidemics of foot-and-mouth disease and gas gangrene. The symptoms of bacterial gas gangrene include fever, weakness, loss of appetite and ability to chew, convulsions, limping and painful swelling on the back. A foul smell and a characteristic rustling sound of the carcass upon its touching clearly indicate the cause of the animal's death. 172 bison died of this in 1904.

That is the simplest explanation, but there might have also existed some deeper reasons for the extinction of aurochs, connected with their behavioural patterns. One of many contemporary examples, that of two stork species, illustrates the problem: the white stork is getting on well in a splendid coexistence with man, while the black stork is on the verge of extinction – because of its timidity it hides in the wildest forest.

However scarce, the historical descriptions of aurochs give an outline of that animal's psychological portrait: a fearless, tenacious loner, aggressive towards its own kin. Therse were not favourable characteristics for the reproduction of the species. Since bulls on any occasion fought deathly struggles between themselves, they probably never amounted to great numbers. They also lived in dispersion. They could exist as long as they had vast areas of wild forest at their disposal. But they were threatened by growing human settlement. The forest territory diminished and was divided by open fields and villages. As the animals were forced to live in ever greater concentration, tensions between them increased and they were becoming more aggressive. They fell victim of their own temper, their natural increase declined and their condition worsened, thus increasing their susceptibility to disease.

Aurochs were admired but also feared by pioneers settling in the wilderness. An accidental meeting with an angry bull or a cow protecting her young was surely more dangerous than an

encounter with a peaceful bison or even a bear. No wonder people in remote times at all cost tried to free the forest of the horned enemy – the motif found already in Greek myths. The terrible bull, father of the monster Minotaur of Crete, was probably an aurochs. The mad bull that ravaged the island was captured by Heracles and carried to the Peloponnese, but it managed to escape. It terrorized the Marathon Plain until it was successfully attacked by the great hero Theseus. He caught the beast single-handed and sacrificed it to Apollo.

Years later, when the population of aurochs was considerably decreased and dispersed, another disaster struck the species. The wealthy of this world entered every corner of the old continent in search of entertainment and fame which they found in the killing of big game. It was only in the final stage that the last remaining aurochs were killed by contagious diseases spread in the forest by domestic cattle.

The inspection of the Crown property in 1533 revealed that aurochs remained only in the vicinity of Jaktorów in the Sochaczew region. They numbered only 50 in the last backwoods of the Wiskitki and Jaktorów Forests in 1557, decimated by extremely cold weather.

The inspection in 1562 listed 8 old male aurochs, 3 young males, 22 old cows and 5 calves, i.e. 38 animals in all. Even the edict issued by King Sigismund III in 1597 was of no help. It said: 'We order that the subjects at the village of Jaktorów shall not take

out their cattle to the places where aurochs live and graze, nor shall they cut grass to make hay, for this village was settled and given its liberties not for the livestock but for aurochs and other such animals' comfort'. The starosta of Sochaczew was appointed for ensuring the abidance by the law.

In 1599 only 24 aurochs were recorded. '...when we asked local hunters about the reason for such a small number of the animals, they said that in part they killed one another, and in part died during severe winters'.

In 1601 only three bulls and one cow were found and in 1620 just one aurochs was left in the Jaktorów Forest. Aurochs lived about 15 years but the last cow lived twice as long, as if she wanted to prolong the existence of her species on the Earth. She died of old age at 30. On the initiative of Professors K. Krysiak and W. Herman, in May 1972 the last aurochs was commemorated at the village of Jaktorów with a huge boulder, which bears an image of the animal and the inscription '*Tur bos primigenius (Bojanus)*, the predecessor of domestic cattle, lived in the Jaktorów Forest reserve until 1627'.

As early as the 16th century, when aurochs were becoming very rare, naturalists started to question their real existence. They tried to convince their contemporaries that the names 'aurochs' and 'bison' were synonyms of one species of a forest ox. No wonder, if we remember that a hundred years earlier the chronicler Jan Długosz suggested the same in his description of King Władysław's hunting at Wiskitki in 1422. That greatly irritated Sigmund Herberstein, Emperor Ferdinand I's envoy, who travelled to Moscow three times and on his journey he passed Mazovia, Lithuania and the Białowieża Forest. In his memoirs entitled *Rerum Moscovitarum Commentarii*, published in Basil in 1556, he described a real aurochs he received as a gift from King Sigismund Augustus, as well as his most precious hunting trophy: a real bison. He illustrated it with drawings of both animals. The image of a bison was supplied with the following explanation:

'I am Bison, in Polish *Zuber*, in German *Bisont*; ignorants call me Aurochs'. The caption to an aurochs' drawing said: 'I am *Urus* (aurochs), in Polish *Thur*, in German *Urox*; ignorants call me Bison'.

Although their existence as a separate species was confirmed beyond any doubt, soon after their extinction aurochs were completely forgotten, to the point of denying they had ever existed. An article by Mikołaj Reumann in the scientific periodical *Sylwan* in 1844, in which he wrote that 'according to the 1533 inspection, aurochs, or bison, were still preserved in the Jaktorów Forest', provoked an argument engaging over 100 expert authors of all possible nationalities, which lasted almost 150 years. And errors in the naming of these animals were made until the mid-20th century. The doubts were dispelled when numerous remains of real aurochs were found in various parts of Europe, and in Poland alone in Mazovia, Pomerania, Mazurian Lakes, Great Poland and Cuiavia. They included more than 1,000 skulls and a few skeletons.

The fate of the aurochs, its senseless extermination and sinking into oblivion, should be a warning to those who spread the idea that the miraculously saved bison has excessively multiplied in the Białowieża Forest and it ought to be shot for profit and trophies. Natural history never has the last word and the bison already has its monument at Spała. Let it continue to be the glory of Poles rather than become their shame.

The Beaver

As the vicissitudes of fate carve a man's face, so the flow of time shaped the pine manor house on the Lutaja River. After seventy seven years, the Golimont family residence Zwod was larger and looked different. The old blackened walls that remembered the youth of grandfather Jan were now accompanied by paler, new constructions: the one which replaced the burnt kitchen and those added on the sides and at the back of the house by successive generations of the family. Even under the steep roof covered with battens an alcove with four windows, a small chamber, a few recesses, a pantry and a small balcony were clustered together. Only the spacious vestibule with the great chimney was decorated with hunting trophies and weapons as in old times, and in the room occupied by the eldest of Jan's descendants stood the dark box with iron fittings, locked with two strong locks...

The vestibule and great hall were crowded with the Golimonts and their neighbours, who came to a meeting with the *starosta* Hrehory Wołowicz and his right-hand man Ławryn Woyna. The grey-haired were siting at the table, a bit cramped on benches of linden wood. Young people had stools brought from the servants' hall. The corner by the chimney was occupied by gloomy, hot-headed Bukraba and his two robust sons. The elders quarrelled about beavers. Jacko Golimont, *dominus castorum*, took care of the property bestowed on his family by the king. Bukraba killed the animals because he had lived in the forest since olden times. Through the open door their raised voices were heard in the courtyard, where leaseholders, beaver caretakers, beaters and servants thronged.

For the whole past year *starosta* Wołowicz prepared his Forest Revision, as they called the land survey in manors and strongholds. It favoured lordly increments and wronged the oldest settlers. Requests and petitions were sent to Sigismund Augustus from the whole Lithuania asking 'not to take away from them old entitlements to forest beekeeping, lakes, dams and haymaking; to allow boyars, noblemen and common people to hunt and log in the forest and to fish in lakes according to the old custom'. At last the king said, 'As His Lordship never does any harm to anyone's property, whatever age-old right and use is proved, it shall be kept'. Starosta Wołowicz had to succumb. He stopped laughing at those who for the lack of 'parchments' defended their entitlements by presenting trustworthy witnesses. As the settlers eagerly witnessed to each other, the entitlements of particular families stopped shrinking so rapidly.

The back door to the great hall opened and Jacko Golimont entered with two strangers. The taller of them had a lordly look: wherever he directed his eyes, the gathered people stopped their disputes abruptly. His companion sat by the window on a narrow bench with a desk. It took him a while to put an ink-bottle and some sharpened quill pens on it, as well as books and documents. Then he immersed the pen in the ink and nodded his head. In total silence they all listened to Hrehory Wołowicz reading out the ruler's will: 'There are forests and woods of ours, to which the old nobility and their subjects are entitled to enter and use them together with our subjects. Of such forests all our officials and their assistants should notify the royal inspectors and get to know urgently and exhaustively who, on what grounds and how many of them have these entitlements. As soon as they learn what amount of land they possess, the inspectors are to report it to us. It is not, however, the king's wish to deprive them of their property in the royal forests, but it should not be in return for gifts or bows; it should be based on lawful hereditary rights or obtained for merits. The forest shall be used without doing any harm to nature and hunting. In the backwoods haymaking is not to take place — only waters and honeybees can be used. In other places in the forest haymaking is forever

permitted by His Majesty the King. However, no animals are to be killed in and outside of our forests, under penalty of death'. He himself, the royal inspector Hrehory Wołowicz, was charged by the Sejm

A tree cut by beavers

of Piotrków with the task of registering all forest royal estates, marking their borders with private estates and regulating the laws of settlement and hunting in the forest. 'Thus, the gathered people are asked here and now to present their evidence of ownership, to show the borderlines of their settlements in the Białowieża Forest and to specify types of their use'. The *starosta* finished his speech and sat down.

Before the noise of many voices erupted in full, Jacko Golimont of Zwod stood up. As the host and the highest local official, he began the ceremony. He placed the parchment with the heavy seal of King Casimir, son of King Władysław Jagiełło, on the oaken desk. Ławryn Woyna carefully examined the seal, signature and date. Then he stood up too, unfolded the roll and read it out with his loud voice. Everybody heard, even those in the yard, that His Majesty endowed to Jan Golimont and his descendants with eternal right to the settlement in the Białowieża Forest, all the names of ranges, beaver colonies, hay meadows, beekeeping trees and dams being specified. Then he read with slight astonishment in his voice that for his service Jan had the lifelong right of hunting for big game in his territories, except for aurochs and bison, and as long as Golimont sons would be born, their firstborn would have the right to hunt for small game and birds.

After Golimont, old Kopeć approached the desk carrying his document from King Alexander Jagiellończyk, which confirmed his right to haymaking on the Sipora River. Then came the Nowogrodzki widow with the endowment to the Perebyla, Ostrowki and Poryowo ranges as far as Leśnica and the Policzna River obtained from King Sigismund. When all parchments had been shown, they started to call witnesses: old men remembering the endowment documents lost in fire. Finally, the desk was approached by Chelstowski with a letter of credentials. His privilege documents from Duke Vytautas were kept by a relative of his in Vilnius...

Ławryn Woyna reached for a new pen and waited. More and more heads were turning towards the chimney; bold, mocking remarks were made. Old Bukraba did not move from his corner and his angry face

went red. Ławryn looked in his book and announced loudly, 'The Honourable Gentleman Bukraba, please come here!'.

The old man sprang up vigorously, followed by his sons. He crossed the hall, pushing the crowd with arrogance, in a single move swept the parchments and the crystal ink-bottle off the desk, banged his fist on it and roared, that he was not going to let Golimont and his band into his territories, he would not feed those spongers and their dogs. He said he respected the age-old laws and he took good care of his beaver colonies and dams, he neither destroyed riverside osier nor cut grass, he brought maple wood for beavers before winter and gave one out of every five killed animals to his lord. As to the privileges, he was not going to present any documents or witnesses, because the settlement of the Bukraba family in the forest was older than living memory. Then, slamming the door, he left the hall together with his sons.

Over long winter evenings local people deliberated on how the conflict between an old settler and the lord's official would end, until the news spread that in Bukraba's ranges 'there was great havoc: the beaver colonies were turned upside down, dug up and damaged, the osiers beside them were cut off and beavers killed or scared away...'

The perpetrator was never found.

In the Middle Ages the feudal lord enjoyed the sole right to hunt for big game. Some forms of hunting and trading in precious hides were connected with a number of hunting law burdens carried by common people. Some tribute was paid in kind and some was work to be done. To the latter belonged collective responsibility of a given community for local nests of birds of prey ('falcon duty'). Any loss or theft of a hatch was punished with a big fine or even with the death of the guilty person. 'Beaver duty' was the obligation to take care of beaver colonies within the settlement area, and 'dog duty' obliged its inhabitants to rear the lord's pack of hounds and their caretaker. Other duties included *conductus ferinae*, or the carrying of lord's tents, transporting the killed game and finding the wounded game, supplying the hunting team with wagons and horses, accommodating the hunters (*receptae*) and providing food and services for them (*custodia*). No wonder some subjects of such lords, especially from noble families, rebelled and fought against their officials.

In the course of time the number of duties imposed on the local population considerably decreased and they were performed by lord's officials (*dignitates*) and hunting staff (*ministeriales*). To officials belonged the master of the hunt (*venator*), his deputy and a beaver caretaker. They were paid with the right to use landed estates, which often became their hereditary property. The hunting servants included falconers, who were later treated as officials, beaver catchers, trackers, beaters and others.

The land survey, or agrarian reform in the Grand Duchy of Lithuania initiated by Queen Bona included the consolidation of land and its new division into *wołoki*, or *włóki* equal to 21.2 ha, which replaced various earlier units of land measurement used for private or royal estates, broken up and scattered so that neither their area nor value nor the number of peasant holders could be specified. Many villages that still exist, e.g. Lewkowo and Postołowo at the western edge of the Białowieża Forest, were initially settled as *zerebia*, or beaver dams. One of the forest holders,

Kniaz Kapusta had three *żerebia*, to which large entitlements to haymaking and beekeeping (867 trunks) were added, as were the rights to build mills and dams on the Narew, Narewka, Lsna, Leśna, Lśnia and Biała rivers, to fish in the lakes and to catch beavers, and even to hunt, except for bison and deer'. And Kniaz Kapusta was not an exception. The number of ranges in the Białowieża Forest with such endowments amounted from 90 to 110 depending on the period.

As a significant part of forested land constituted royal estate, the survey also served to regulate legally the rights of 'entry' to the forest. The royal inspectors Hrehory Wołowicz (author of the Forest Revision, who inspected 10 forest holdings in the Białowieża Forest, and Ławryn Woyna (from 1569 court treasurer) started to take away illegally settled land, which was strongly opposed by landholders.

In 1571 the Białowieża Forest was surveyed by the inspector Dymitr Sapieha and the campaign of swapping land in the forest for other land outside it was started, either voluntarily or by force. That created the conditions for corruption and nepotism of inspectors (Mr Wołowicz and Mr Woyna also knew how to protect their own interests) and resulted in yearlong trials.

The effects of the campaign were wasted, for King Sigismund Augustus left the whole complex problem unsolved to his successors. As a result, a great number of land holdings in the Białowieża Forest survived for centuries. The passive attitude of the last Jagiellon king is hardly comprehensible, as he was quite conscious of the problem's range. He often came to the neighbouring Knyszyn Forest. The young king had his hunting lodge at Knyszyn on the Jaskrzanka River, given to Sigismund the Old by Mikołaj Radziwiłł, Bishop of Samogitia. Its game enclosure, where hunting usually took place, was rich in animals, and next to it was a large stud farm.

He also visited the Białowieża Forest. In 1546 an enormous hunting was organized lasting a few days long. They killed so many

animals that they did not know what to do with them, so the meat was salted in barrels and sent out as gifts. 35 barrels of meat were delivered to Cracow alone, a dozen or so went to the castellan of Poznań. King Sigismund Augustus was not mean to anyone. He generously distributed the profits of his hunting and paid his bills with valuable hides...

A very accurate and reliable description of the beavers' appearance and life dates from 1565. It was written by the papal nuncio for the Italians, who had never seen the animal. 'The beaver is a four-legged animal living partly in water and partly on land. It has a round head like a cat and its hind legs resemble those of a goose. The tail is broad and scaly like fish skin; it is considered a delicacy. Otherwise its meat is inedible. Beaver fur has long and soft hair which is never lost, and therefore it has a high price. The animals live in different regions of Poland on the banks of rivers or lakes, in several-storey lodges; beavers sit on top of them or go down depending on the water level'.

Centuries ago beavers inhabited the forested lands of the whole of Europe and northern Asia. Starting from the 10th century they began to die out. In England at that time their hides were valued so much that they were used to trim royal robes. In Poland and Lithuania black- or brown-furred beavers were still in great abundance. There was literally no river or stream, lake or peatbog without their characteristic lodges (in Polish *żeremia*) and dams. From the 13th century the number of this rodent began to fall. It is very unfair and misleading to claim that they declined despite the great care of the rulers. Although King Bolesław the Brave forbade killing beavers on his hunting grounds, in Sigismund Augustus' letter of 1518 to the holder of Kamieniec it was clearly stated that 'all beaver colonies are at the king's sole disposal'. The statutes of successive rulers stressed that beavers were lord's property, while not a single word was said about sparing the animals themselves. The essence of that attitude was formulated in the Game Act issued under Władysław IV in 1643, which said, 'Under pain of death, beavers shall not be hunted by the subjects, except by specially appointed beaver catchers'. And that killed the beaver. The famous beaver protection was in fact only their protection from local people, who were forbidden by the Lithuanian Statute to mow riverside meadows, cut osier and kill or scare away beavers. The rule, plus the appointment of royal beaver caretakers called *dominus castorum* (master of beavers) and their countless assistants, had one goal: to safeguard the lords' interests. What they did exactly was to visit royal and private estates in order to kill beavers, and that without any detriment to the royal treasury. They damaged beaver colonies, dug out holes and set traps, set dogs on them and beat them with clubs. The estate owners and their subjects not only had to take part in such 'crop gathering' but also to feed and shelter the catchers and their dogs. The Ordination for the Białowieża Forest of 1639 listed six families of beaver catchers at the village of Czornaki; they were free from paying rent, providing wagons and horses and other duties. They

were only obliged to hunt for beavers in winter and give them back to their lord. Should they fail to do that, they paid 1200 groszy for each year. During their hunts the village of Czornaki was supposed to delegate some peasants to help them. No documents have been preserved specifying how many beavers were killed each year and what profit it brought to the lord.

Later, hunting rights were granted to the lower administration of forest guards and shooters, in exchange for a so-called 'fur-fee'. It was noted in 1580 that 'the subjects chased beavers on the river, for which they paid tribute to His Majesty the King', from 20 to 50 groszy from every village.

The Wołoki (Włóki) Act of 1557 said: 'and in all our and foreign forests, where our subjects caught beavers for us, they shall do it the same way as they always did; and wherever beavers appear again (sic) in our lakes and rivers, they shall catch them and themselves take one out of five beavers for doing the work'. That was a sure way to the slaughter and extinction of the species. A nobleman, boyar or *starosta* (leaseholder of the royal estate) had to kill five times more in order to make gains themselves. Thousands of hides tied together were delivered to the king to cover the costs of running the court and wars. It should be noted that although beaver females sometimes have as many as four young in one litter, they do not start reproducing until the third year of their life. Also, they are monogamic, and after the loss of their partner they often stay alone till death. Therefore, the species had no chance to make up for its ever increasing losses.

The demand for hides was inexhaustible. The wealthy population of Europe loved to wear all kinds of furs – from sheepskin to

lynx and sable. Floor-length robes were in fashion, such as *delia*, *hazuk*, *burka* and others. Besides, the liquid produced by a pair of glands situated near the reproductive organs of beavers, known as castoreum, was in tremendous demand. It was used by physicians and apothecaries to cure arthritis, gout, apoplexy, epilepsy, paralysis, ear problems, headaches, colic, toothaches, liver malfunctions, debility, melancholy, stomach ache, insomnia, poor sight and scorpion bites. Beavers secrete this substance chiefly in spring and early summer, which is when they have young. Deprived of their parents the latter had no chance to survive. Beaver hides and castoreum were brought from the whole of Poland and Lithuania to Gdańsk. From there they were exported to the West.

It must be admitted that nothing was wasted of a killed beaver. Its meat was delicious, especially the scaly tail, which was regarded as fish meat by the Roman Catholic Church and could be eaten even during Lent. Beaver fat was used for dressing wounds and its teeth were hung on babies' necks to make their teething easier. Beaver fur was used for making hats. One hide provided about 800 grams of material, which in the 17th century cost 20–50 marks per pound. In 1663 beaver hats were very expensive in England. An old Jewish hat maker was said to have given away his family's secret which was kept from the time of Solomon: '... to have an excellent memory it is enough to wear a beaver hat, once a month put beaver oil on the head and back and twice a year take the amount of beaver castoreum weighing as much as a gold crown.'

The growing demand for beaver products was not the only factor that destroyed the species. Their natural environment was threatened by the construction of more and more bog ore mines.

The deposits of bog iron ore, usually situated right below the earth's surface, are easy to find and mine, particularly on the banks of rivers, lakes and ponds. This ore was smelted into iron, indispensable in everyday life and in warfare, since the dawn of our history. Great ore deposits in the Białowieża Forest were discovered as early as the Middle Ages. Under the Jagiellons, it

was considered to be an exceptionally high quality ore. King Sigismund Augustus issued an order 'to settle miners and blacksmiths on those lakes and in those forests where ores could be found, and to give land to them, in order to make iron, bringing good craftsmen from Mazovia or Poland, so that iron multiplied in Lithuania, where good-quality ore was in greater supply than in other Christian Kingdoms; and the iron brought to the court should be sent to us for our needs and the needs of the Republic'.

The first documents regulating the localization of mines, methods of mining and rents, and listing the owners of four mines on the Niemirza and Narewka rivers date from 1639 and 1670. It soon became evident that the devastation of river banks kilometre by kilometre threatened beavers. A special commission stated in 1700: 'the Hunting Office has put forward an objection that the mines do harm to forest ranges, beaver colonies and the revenue of the treasury'.

The mass killing of beavers, ore mining, regulating the rivers and floating an increasing amount of timber brought quite foreseeable results. In 1796 the report known as *Forest Description* presented beaver (and otter) colonies in very low numbers:

– in the Augustowska range: beaver lodges 6 (otters 7),
– in the Narewska range: beaver lodges 2 (otters 2),
– in the Okolnicka range: beaver lodges 2 (no otters).

An order was issued by the chief steward of the Brest royal demesne, named Szczepanowski, saying that 'hunting for beavers, otters and martens in the Forest is not allowed to anybody for any fee, except at a suitable time of the year by appointed people, for 15 beavers, 15 otters and 30 martens, each priced at 20 zł. If a beaver, otter or marten is killed without permission, the fur is confiscated and the fine of 30 zł is paid'; but even that was no help.

Those 15 beavers a year led to the extinction of the species. In 1830 only their old constructions on the Narew were left, a sad reminder that they had once proliferated.

In the first half of the 19th century hunting experts lamented: 'With our wastefulness did we destroy our beavers completely'. The scientist Jarocki quoted a statement of an unknown author in the natural history from 1563, complaining about his fellow countrymen's luxuries and foretelling a quick extermination of beavers.

When Poland regained its independence in 1918, a decree of 1919 and the Nature Protection Act of 1934 were issued, both taking the beaver under strict protection. In 1939 their population in the Niemen and Berezina river basins amounted to some 400. After the Second World War single specimens lived in the Warmia and Suwałki Lakelands.

On the initiative of Prof. Mieczysław Czaja, the Research Farm of Beavers was established in 1958 at the Research Centre of the Polish Academy of Sciences at Popielno near Pisz. It was built on Lake Śniardwy according to a Canadian model, and the first four pairs of European beaver were brought from the Voronezh reserve in the USSR. In 1960 a few other specimens were moved from the former reserve at Oliwa near Gdańsk.

This success has had many contributors. A number of respected institutions and persons participated in the restoration of the species, today no longer endangered. However, the late Prof. Wergiliusz Żurowski, a superb researcher at the Popielno Centre and a charming man, was the highest in the order of merit.

On 12 August 1958 Mikołaj Buszko, a laboratory assistant at the Museum of Białowieża National Park, discovered some traces resembling those left by feeding beavers on the bank of the Narewka. Two days later a team from the Polish Academy of Sciences Mammals Research Unit based at Białowieża examined the site and confirmed the sensational presumption. Within 300 m of the high and firm bank above the confluence of the Hwoźna and Narewka rivers countless traces of beavers' gnawing were found, as well as tracks of their hind legs in riverside mud.

Three or four beavers came totally at their own will maybe from Belarus or from the reserve on the Biebrza near Osowiec, taking advantage of a high river level that year. A special commission was set up to investigate where the beaver immigrants came from, but the results of that investigation were never revealed. In 1972 Prof. Z. Pucek, a research manager, wrote in his article that the animals crossed through the eastern border of Poland, where 12 beavers from the Shchary reservoir were reportedly let into the Leśna River.

Today beaver colonies exist on several rivers in the forest.

The Royal Falcon

The light of dawn painted the sky pink; birds started singing. When the spring wind dispersed the night fog, a horse team emerged gathering in front of Zamczysko, the hunting lodge at Białowieża. Hounds were barking anxiously, horses were snorting, birds of prey were squealing. His Lordship Jan Krzyżtoporski inspected the line-up of disciplined huntsmen, bird breeders and guests invited to the hunt; he admonished some dog keepers and servants attending to the wagon loaded with food and cooking utensils.

On the right wing was the select team of masters in falconry directed by Łukasz Biedrzycki. Each rider held a most precious bird, a gyrfalcon from the far north, perching on a horse's back or head – some in colourful ornamented hoods, some without them. Some falconers were able to hold their birds on a gloved hand, holding reins with one hand only, some kept them on their shoulders, from where they would soar up into the air at a given signal. Polish, German, Russian and Hungarian speech was heard, for the most celebrated falconers from many countries came to the court of Stephen Bathory. The left wing of the team consisted of lesser falconers, holding their sakers, young wild falcons, hawks and sparrowhawks. The master-of-horse Kacper Maciejowski led a swift-running horse born in distant Arabia in front of the team. The horse was pawing at the ground, wagging its tail and widening its pink nostrils. The master-of-horse checked the saddle girth and smoothed the splendid Turkish caparison.

A heavy oak door opened and the ruler of Poland appeared, a very handsome man in his prime, with a dark oval face, black hair and unusually white teeth. His nose was like that of Attila's shown in his images. He

had a well-formed, knightly figure and looked strong and healthy. He wore a purple sleeveless waistcoat lined with sable fur and his curly-haired head was covered by a tall velvet *kolpak* decorated with heron feathers.

The crowd fell silent. King Stephen cordially waved to greet his team and came closer to Kacper, who held the stirrup for the monarch. Bathory mounted his horse lightly. *'Mily gyönyörüség!'*, he shouted to his inseparable Magyars: Forgac, Majlat and Cathai, and they answered, *'Kètségtelenüül!'*. Trumpets started playing and the retinue set out. Like a colourful ribbon it proceeded along a winding forest tract towards the open terrain at the confluence of the Łutownia and Narewka Rivers...

A pair of sakers known as Polish gyrfalcons made their nest upon an old pine standing outside the forest and close to the wide expanses of riverside meadows. They saw fresh green grass below, waving rushes further away and behind them the river current and numerous canals dammed by beavers. The female greeted the new day sitting on her nest: it was time to lay the last, fourth brown-speckled egg this year. Above, the male floated in the clear sky, straining his dark brown eyes in search of a young hare or duckling...

The royal team reached the forest edge. Everybody took their right place: the bird breeders next to the king, followed by dog keepers with a pack of hounds trained to hunt with falcons. A signal was given on a trumpet. The hounds started running with their noses close to the ground. They frightened off a hare, and then another one. With a rumble of hooves they rushed after the game, shouting 'At them' in different languages. Hawks and sakers were released, flapping their wings. The huntsmen on their horses galloped through the meadows after their birds. Which of them would be the first to reach the victim and which would let them down? After hares, it was time for ducks. Sporting dogs, received as a gift from Duke Ferdinand, started to wade the water in the rushes, and soon from their midst a pair of wonderful snow-white herons flew up to the sky with a flutter of wings. Bathory called the falconers and they quickly flew four royal gyrfalcons, two for each egret. Soon they caught their quarry. One bird blocked its way, the other struck from above. The heron tried to

defend itself with its beak or to escape sideways, but in vain. Its bloodied feathers floating in the air, the bird fell down to the ground. Master Ewehard alighted from his horse, ran towards the bird landing on the heron and rewarded it with a piece of meat. Then he took the quarry, wrung its neck and put the rest into the bag hanging on his belt. He stroked his pet bird, put a hood over its eyes, seized the leather straps with bells and put the bird on his glove. The colourful team rolled on along riverside meadows and wherever they stopped for a while, the claws took their death toll. On the wagon following the hunters a pile of green-necked ducks, grey and white herons together with hares, young roe deer, a peaceful red-beaked stork and once aggressive swan, grey-feathered cranes and geese – now all bathed in blood...

Over the river bend wild falcons were floating in the air. The female left her nest for a while to enjoy the flight together with her male. Down below between trees they saw the royal team, so they raised to a higher level to watch the strange view more safely...

The hunters noticed the high-flying sakers. Hey, what fun it would be to fly their falcons for a fratricidal struggle! The Moscow-born master awaited the kings decision, holding Ivan the Terrible's gift on his glove: a female gyrfalcon, the gem of the royal aviary and Bathory's favourite. Heated with hunting, the king allowed for a bit of fun. So they first flew a male gyrfalcon as a bait. The pair of sakers saw an intruder flying towards them and lowered their flight to scare it away from their territory. That was exactly what the experienced falconers were waiting for! They flew another falcon into the air. The royal retinue watched breathlessly the struggle in mid-air. What cunning tricks were the fighters using! What a show they made! It seemed the wild falcons were about to win, so Bathory gave a signal to fly the royal gyrfalcon accompanied by two others.

Up in the sky the wild saker, already wounded, was unable to hold out against new adversaries. It was hit by a claw and dropped dead to the ground. Its female pounced on the royal favourite that flew to her with all her remaining strength and the two birds sank down together into the thick forest. They were found both dead...

Bonfires were set on the nearby hill and the servants started to prepare a meal for the tired hunters. They cooked wild geese, young deer and ducks on a grill, while dogs were given the carcasses of storks. Beside the camp, birds of prey rested on sticks, having been fed to the full.

In the nest high on a pine tree four brown-speckled eggs were slowly embraced by the cold of the spring evening...

During the interregnum after the death of Sigismund Augustus and under the rule of Henry of Valois and Stephen Bathory (1576–1586) the Białowieża Forest was leased by Kniaz Konstanty Ostrogski, who seized the estates of some families. Others, for instance the Kopeć family, illegally incorporated some territories under the royal administration into their own estates. The campaign of forced or voluntary exchange of land initiated by Sigismund Augustus was continued. The local population kept sending appeals to Stephen Bathory, in which they complained they were deprived of their rights to use the forest. The king delegated a few commissions to examine the circumstances and by making some just decisions he considerably pacified the emotions of people. It was easy for him, as he knew the Białowieża Forest well. He often hunted here, e. g. in the years 1580, 1581 and 1584.

The king's secretary and historian Heidenstein mentioned his majesty's frequent hunting in the Białowieża Forest both for big game and for capercaillie or black grouse.

The nobleman Bojanowski wrote in his letter to Jędrzej Opaliński of 13 January 1581 that he did not obtain King Bathory's signature on a donation act because the king was hunting in the Białowieża Forest several miles away from the chancellery and the seal.

On his visit in the forest from 7 to 10 January Bathory hunted for capercaillie in the company of Count Zamoyski, Wesseleny, his loyal butler Isztok and, as usual, his assistant rifleman Jan Kawęczyński. As the courtship display of capercaillies did not take place in mid-winter, they worked out a chasing system. Birds of both sexes were forced to move and walk in a given direction, where shooters were waiting. The more nervous of the birds raised to a short flight and then they landed again on the snow or trees, but ever closer to the shooters, who fired at them from muskets. An additional attraction of such hunting was the bigger game, such as wolves, lynxes or wild cats that appeared in front of the slowly proceeding chase.

The king was a hunter and the distributor of the quarry. It was a universal law, guarded by a forester, that no one could hunt except with the lord's special permit. In 1577 Stephen Bathory sent two letters from Malbork permitting Marshall Radziwiłł to kill four bison and Chancellor Jan Zamoyski – four bison and four elk in the Białowieża Forest. In 1582 he ordered the ranger Filip Marchwic to kill another four bison and four elk. That much was recorded in documents. How many more such permits Bathory gave we shall never know.

A stone residence was built amid the forest for the ruler and his team, known as Zamczysko (The Castle). It is believed that the mysterious ruin-like structure in forest unit No. 281 may be its remnants. The Russian geographer and historian P. Bobrovsky wrote in 1863 that treasure seekers excavated a great number of skeletons in the Zamczysko range in 1825. As they had pottery urns under their heads, it was probably a pagan urnfield and not a royal mansion.

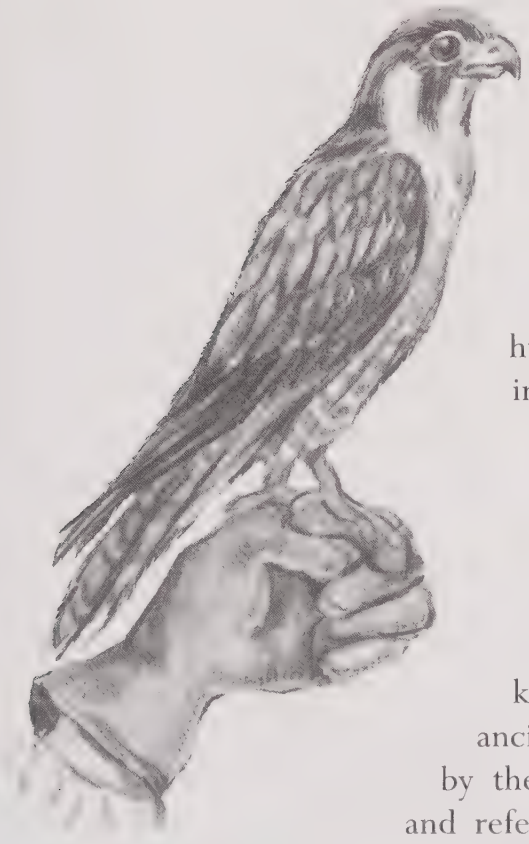
Also the traditional belief that the highest morainic hill in the Polish part of the forest, called Bathory Hill (183 m), was once a place of rest of the ruler during a hunt, is but a legend. The greatest expert on the Białowieża Forest, Otto Hedemann devoted two years to searching out in archives. He checked hundreds of documents from the 15th till the 18th century, but no such hill was on any list of the forest ranges. The name first appeared in the literary texts of the mid-19th century. Some 10th-century grave-mounds were also found in the proximity of Bathory Hill.

Stephen Bathory hunted with his famous 'three-mile' net, which is now estimated to have measured at least 24 km. A large area of the forest was fenced off with the net and then the net was reduced in length, thus entrapping animals inside. The king told the hunters which of them to take. The nets for catching big game were large, thick and very heavy. Deer nets were 45 m long and 3 m high. The rope was as thick as a finger and the holes had 15 cm. Semi-nets for smaller game were half that size. The ropes were

twisted loosely so that they did not shrink when wetted. Imagine the effort that was put into the spreading of such monstrous devices, heavy and stiffened by dew, by the hunting servants who had to expand them over kilometres of primeval forest. Nets were made by peasants settled for that purpose in the king's villages. Each of them took care of some 6 metres of the nets.

Bathory was the first to introduce firearms to hunting for big game. He used muskets, for he thought it was better to shoot a bison between the horns than set useless dogs on it.

In order to have still greater fun the king had a vast game enclosure built – the first in the Białowieża Forest. A few hundred hectares of pristine forest in the Wielka Kletnia range near the Jelanka (now Orłówka) River source were fenced off with a huge oak palisade. Two comfortable watch towers were constructed and a dozen or so bison were let into the enclosure.



Stephen Bathory revived hunting with birds of prey in Poland.

Before firearms replaced a javelin, bow, spear and crossbow, falconry, or hawking, was a major way of hunting, especially for small game. It was known as early as the ancient times, as it is shown by the preserved works of art and references in the writings of Aristotle and Pliny.

Presumably falconry was brought to Europe, and its eastern areas in particular, by the hordes of Mongol invaders, who used trained dogs and birds of prey for hunting. The new custom was adopted very quickly. In the early Middle Ages the Burgundian law stipulated that when a thief of a trained falcon was caught, he had to pay a heavy fine and give six ounces of meat cut out from his own flesh to the bird. According to the 16th-century Lithuanian Statutes the theft or killing of a trained falcon was punished with a fine of 12 groszy, the same as for the killing of a serf man, and for a hawk 6 groszy.

The madness of falconry in Europe reached its climax in the 15th and 16th centuries. This kind of hunting was considered as the ultimate expression of good and courtly manners. The right to own a falcon was a symbol of noble descent, like the carrying of a sabre. Falconers from simple servants advanced to the status of court officials. Things came to such a point that in France every knight and nobleman as well as bishops and abbots went to church with their birds, which sat on the altar steps during the service – those of the clergy on the left and those of laymen on the right.

The sport was no less popular in Poland. Apart from royal falcon aviaries at Niepołomice, Miechów and Płock, magnates and petty nobles had a growing number of their own ones.

Queen Bona Sforza was a great fan of hunting with birds. Most of all she enjoyed the flying of trained falcons at herons and swans, which she did with passion when she hunted near Vilnius and Grodno as well as in her numerous estates in the Białystok region. However, under the last Jagiellon falconry declined a little. The chronicles say Sigismund II Augustus's teacher Opaliński had no intention to instruct the royal prince about falconry. He was of the quite right opinion that such entertainment could only teach the boy cruelty. As a result, the adult king used the word 'falcons' only to describe his beloved women and he preferred hunting for big game.

Hunting with falcons still flourished in the country at the courts of wealthy nobles. When Henry of Valois came to Poland,

to his amazement he was shown better trained falcons than those he brought from France.

Stephen Bathory upon his arrival to Poland found the Wawel aviary and dog kennels in a deplorable state. Both the animals and their caretakers were starving amid the total chaos of interregnum. The ruler slowly increased the number of huntsmen, netmakers and falconers, as well as dogs of various breeds. Initially, while the treasury was empty, Bathory received dogs and trained birds such as sparrowhawks, hawks, peregrines, sakers and gyrfalcons as gifts. A long list of donors included Polish noblemen and magnates as well as European kings and princes. In 1581 the king founded his own school of falconry at Grodno (now in Belarus), where he employed two extremely well-paid masters: Wilhelm Ludwik and Ewehard Szmalder. To start with, apart from the birds he already owned, Bathory purchased seven gyrfalcons: 6 females for 30 Polish złotys each and 1 male for 20 Polish złotys. The price equalled that of 14 plough horses or 28 fattened oxen. In a short time he bought more birds for 100 Polish złotys. Then everything went smoothly and the king had no reason to complain.

Before he could take the birds for hunting, they had to be properly trained. Eagles were trained to catch foxes, wolves, roe deer and fallow deer; Norwegian, Islandic and Greenlandic gyrfalcons for herons, cranes, swans and wild birds of prey; peregrines and sakers – all those species plus water and wading birds and hares; merlins – quails, common snipes and partridges. Hobbies were trained to catch small birds such as quails or skylarks; goshawks – hares; sparrowhawks – small birds. Birds were caught wild to be trained. Some were taken out of their nest as fledglings or fully fledged but as yet flightless. These were called eyases. Still immature though flying with their parents or mature passagers were the most sought-after birds.

Having been caught, a bird of prey was tamed and forced to accept its slavery. There are no limits to human inventiveness in tormenting animals. Depending on the country and local traditions,

the goal was reached with various methods. In Central Europe and in Poland the basic method of persuasion included thirst, hunger and lack of sleep. The bird's wings were tied up and its eyes were covered. It was put on a wooden ring which rotated continuously for several days. After such a long torture the bird would either die or pass to the 'next grade' – the training proper. To teach a young bird of prey how to kill his target and return onto his oppressor's glove required not only its starving but also some 'teaching aids', which were living birds, specially wounded for that purpose or fastened to a rope. The trained bird was also tied up with a long leather strap. It was particularly hard work to force the falcon to attack animals bigger than itself, e. g. swans, herons, cranes, bustards or storks, in natural environment dangerous for it and never becoming its prey. For that reason during training sessions herons had their beaks wrapped around with linen, so that they could not harm the attacking bird. Afterwards, the trainee's fate could be different. The teacher's pet was admired for its skills in mid-air fighting, bets were made among the amused viewers, whether a falcon would drop a heron or vice versa – a heron would skewer it on its sharp beak. That kind of entertainment yielded almost no material advantages.

Another long-standing tradition in Poland was setting falcons on each other. The annual tribute from the Pomeranian land paid by the Teutonic Order to Casimir the Great (1333–1370) among other things included more than ten falcons, so the lords could play the costly game. It always cost the life of one of the fighting birds, which were called 'a Pole' and 'a Teutonic Knight', for one of them was bred in Poland and the other was taken from Teutonic Knights' deliveries.

The description of hunting in this chapter is based on contemporary records. According to hunting manuals, a 'good' hawk could catch 50 pheasants (the record number was 70), or 10 to 15 hares, or 70 partridges a day. A falcon flown at a flock of five wild geese could easily 'drop' them all from the air, 'sitting' on the last one. One golden eagle caught 14 wolves and 3 hares in a sin-

gle day. A record score in hawking belonged to Frederick I, the landgrave of Hesse-Kassel, who in the years 1730-55 killed as much as 1,763 kites, 4,174 herons, 4,857 crows, 14,087 partridges, 398 wild ducks, 1,647 magpies, 985 pheasants and 5,059 hares. Altogether he killed 34,500 animals!

The fauna was killed off all year round, provided the weather was good. Countless numbers of falconers killed thousands of birds of prey and hundreds of thousands of mammals and other bird species, including storks and herons, which were only needed to get a few feathers for the headgear of nobility. The effects of their whims are seen on the list of endangered species of the European Red Data Book.

The first on the long list of followers of the sport, otherwise a ruler of merit for Poland, King Stephen Bathory wreaked havoc in the Białowieża Forest. Not for nothing his coat of arms contained three wolf fangs. Nobody knows now, when exactly the last Białowieża wolverines, sables, wild cats, quails, white herons, golden eagles, peregrine falcons and Polish gyrfalcons were killed.

STEPHANVS Primus, Dei gratia REX POLONIAE, Magnus Dux Lithuaniæ, Russiæ
Masouiæ Samogitiæ, Livoniæ, Transylvaniæ Princeps, &c.
Sic STEPHANVS frontem vitiis oculosque gerebat
REX, pius, et sapiens bellique et pace coruscans.

King Stephen Bathory

Poachers

The Białowieża Forest seemed to be doomed to misfortune. Year by year the savage Cossack, Swedish, Turkish, Polish, Hungarian and Muscovite armies took their toll of blood. Fires raged day and night, devouring human settlements and woodlands. The Hungarian army plundered Jamno, a wonderful seat of the Białowieża foresters. The Muscovite invaders rolled by from Grodno to Brest, razing Kamieniec to the ground. A horde of Cossacks together with local peasants murdered the squires. They burnt the Pożeżyn manor under Brest administration and the age-old Zwod on the Lutaja, which remembered the Jagiellonian times. When the Tartar companies under Abramovitch and Asanovitch marched through villages, royal subjects swelled of hunger – they were robbed of their clothes, food, tools and everything else.

The forest suffered as much as the tormented people. Each wave of war activities brought regular armies, both the country's own and foreign, as well as various marauders and hooligans. They and local peasants and nobles alike devastated the forest, burnt it, killed its fauna and destroyed honeybee nests. When the disastrous swarms of soldiers went away to a battlefield, peace and quiet returned to the forest for a while. But then it was a time of struggle between poachers and royal officials, such as hunters and foresters...

The Jewish inn-keeper, serving a crowd of drunken peasants gathered in the room, now and then peeked at the corner where Hryhor Kowalczuk from a poacher family, currently at the service of Joachim Karp, chamberlain of Bielsk land, was drinking heavily and conspiring with Owsiejczyk, a rough from the rich Lady Masalska's estate.

The two landholders were loosing patience with Michał Kandelgiser, a royal master of the hunt, who settled in a newly built manor on the Narewka in the Białowieża Forest and despite the time of war and lawlessness he guarded the royal estates like a watchdog. He would appear unexpectedly with his band of beaters and shooters at the place where someone killed a deer or at damaged beaver colonies, or where nets were set to catch wolves. The local manors stopped getting precious hides and fresh meat and the most loyal servants of Masalska and Karp were already kept in the Brest prison. Things went too far with the lynx pelts.

Hryhor was a lone poacher. He killed big and small animals with strange satisfaction, and when he saw a lynx track, he followed the animal until he got its tawny, lightly spotted fur. His lord was happy to have found a fool who every spring brought to his manor a bagful of precious lynx pelts, fit for covering a knight's shoulders, for a few groszy and a free drink at the inn leased by a Jew.

However, someone set tongues wagging.

One night in April Hryhor Kowalczuk took 14 lynx pelts he collected during winter out of his hiding place in an old linden tree and put them into a juniper basket. He covered them with brushwood and set out for a long route. He was nearing the forest edge when he was ambushed by a band of Kandelgiser's men led by Nazar Holoskovitch. Hryhor was speedy enough to defend himself with the basket and his own fists; owing to the darkness and turmoil he managed to escape deep into the forest. He found his cottage vandalized and his woman furious and calling him names.

As nothing was found nor proved to him, he continued his job and waited for an opportunity to get revenge. It emerged very soon. Chancellor Karp and Her Ladyship Masalska united their forces to defeat their oppressor. They conceived a simple plan to ambush and kill all the king's men. It was doubtful if Mr Kandelgiser would be able to reconstruct his team too quickly in times of such unrest...

One May evening Michał Kandelgiser and his young spouse went outside their manor house at Białowieża to listen to the song of

a nightingale on the pond. They stood in warm embrace, delighted with a rare moment of tranquillity. Suddenly, on the other bank of the Narewka they heard a shot fired from a harquebus, and then another one from a musket...

In the Kniehinine Błoto range, only two poachers stayed to flay the hunted bison. They hid their loaded arms in the shrubs and started their job. The rest of the band, nineteen armed men, hid close by.

The royals came soon, not many of them. They included but a few servants with sticks and several riflemen, who were stationing at Białowieża, commanded by Nazar Holoskovitch. At the sight of peasants cutting the quarry, they hurried to catch them. Hryhor was hiding behind a tree. He waited till they ran forward, then he raised his musket, took careful aim and fired at Nazar's back. The bullet pierced his chest tearing it out. Before the royal men had time to think, a hail of bullets followed from the thick bushes. Seeing they were far outnumbered, the royal servants ran away to Białowieża. No one else was shot, but Nazar Holoskovitch was deadly wounded.

But His Lordship Joachim Karp and his female accomplice made a miscalculation. The body of Nazar, the bravest beater of the Białowieża forest district, was placed on view in front of Brest Castle; there it lay crying for vengeance. On 13 June the Białowieża forester

Jan Minocki submitted a complaint against the criminals to the deputy *starosta* of Brest. The poachers were followed day and night by Michał Kandelgiser's men until they all left their homes and fled to some foreign lands.

The time of 17th-century wars with Sweden, known as the Deluge, as well as conflicts with Muscovy, Cossacks and Turkey, were devastating for Polish and Lithuanian land and for the Białowieża Forest. The preserved registers of losses and inventories from the years 1632–1670 illustrate the scale of damage.

The register from 1665–1666 contains a common complaint of the inhabitants of nine villages in the Białowieża forest district concerning the harms done to the poor people by two Tartar companies under captains of horse Abramovitch and Asanovitch, who robbed them of money, heifers, beer, cheese, oats, animal fat, sausage, groats, spirits, sheep, hogs, buckwheat, broad beans, lentils, yarn, salt, hens, boots, coats, fox-fur hats, hoes, axes and even bowls full of dough. The complaint was sworn on God and certified by the deputy starosta of Suchopole, Mikołaj Sużen.

The inventory from 1670 lists 'the whole villages deserted', in which 'there are no subjects and fields are overgrown with bushes'. In those terrible times nobody cared about the forest. Its fate depended on the whims of the marching armies. Anybody could hunt, anybody could start a forest fire.

Soon after the joining up of Lithuania with the Polish Crown, the public and royal treasuries were finally separated by the establishment of the so-called royal demesne. The profits from those estates went for the maintenance of the royal court. The constitution of 1589 entitled *The Ordination of Royal Provisions*, put the whole of Grodno, Szawle, Brest with Kobryń, Mohylów and Olita at the sole disposal of Polish kings. The Białowieża Forest became a part of the Brest demesne.

The Ordination of royal forests of the Grand Duchy of Lithuania for the years 1636–1641 empowered Gerard Doenhoff to hold the Białowieża forest district with the seat at Jamno, built 'to the advantage of His Majesty the King'. The district covered three sections: Orzeszkowska, Fałowska and Dmitrowska with 277 beaters. The lower staff, such as forest rangers, huntsmen, game wardens, beaver catchers, beekeepers, shooters and beaters,

were subordinate to the forester, whose task it was to protect the forest and its fauna from 'borderland shooters, poachers and all kind of wrongdoers', so that no harm was done to animals or honey-bee and other trees.

During the Deluge period the office of master of the hunt in the Białowieża Forest was held by Michał Kandelgiser. Some legal documents contain the description of the fight between poachers and royal beaters in May 1663, along with names of its participants.

The Ordination of 1639 mentioned for the first time a manor house at the Białowieża Forest, built near the Kniehinine Błoto range for His Majesty the King to stay when hunting, 'all other houses', four wardens, a pond near the house and the mill on the Narewka. It was the germ of the present village of Białowieża.

In the mid-17th century every village in the area was equipped with its own inn run by a Jewish leaseholder, who paid a rent to the forester. Owing to that the local population joined in the nationwide boozing which continues till this day. In 1700 the for-

est villages and settlements had as many as 14 inns. Inn-keepers were doing well despite their patrons' poverty. As G. Harnak observed, 'the local people do not seek luxuries, being content to have their daily bread and money to pay the tax, while any surplus they earn from their soil they bring to the Jew and spend on drink'.

The lynx inhabits thick mountain and lowland forests with dense undergrowth. Two varieties of the species live in Poland today. The last specimens of the north-eastern variety, quite common in the south of the Vilnius, Nowogródek and Polesia regions before the Second World War, still live in the Białowieża Forest. With its length of 155 cm, the Białowieża lynx boasts a record size in the species. Its tawny fur is somewhat mottled with cinnamon brown on the sides and legs and has a dark stripe on the back. Professor O. Antonius of Vienna, an expert on wild animals, visited the Białowieża Forest in 1936 and described its lynxes as the most magnificent in Europe. The Carpathian lynx has black elongated spots, usually in three or four regular rows on its back.

In historical times the lynx inhabited vast areas of Europe but it was gradually killed off in most of the countries. In Jutland, Denmark, the last specimen was killed in 1689, in Germany in 1846, in the French Alps in 1909 at Queyras. The last two northern lynxes in the Pyrenees died in 1917.

The Slavs also oppressed this beautiful cat which fed on roe deer, small game, mice and birds and if they were unavailable – on young deer. The reason was its precious fur, which decorated the armour of Polish winged hussars, but also the mere fun of killing a 'Polish tiger'. In the 17th century its noble beauty was admired and considered as second greatest after that of a sable. In the 1920s and 1930s it was described by hunters as 'a cunning and guileful bloodthirsty monster and an evil spirit of the deep forest, so cruel that it kills every being it finds just to get satisfaction and thus does terrible damage to the animal population. A butcher of

all cervids, it can kill elk in an instant; in comparison with it a wolf looks like an innocent lamb. It can only be likened to the family of martens, polecats and weasels, who also murder for fun and not only to satisfy their hunger. Because of its bad character and devilish speed, it is to be fired at with a shotgun'.

Despite that opinion, in the period between the two world wars the lynx was granted the favour of being protected in its breeding season, under the Hunting Act of 3 December 1927. It was done in order to save it from total extinction, for 'to capture a lynx was a glory to a hunter and a magnet for venture-loving foreigners'. Owing to that, in 1937 the number of lynxes amounted to 180 in the lowlands (including some 50 in the Białowieża Forest) and 70 or 80 in the Carpathian Mountains.

The forest was once completely robbed of these magnificent animals when the tsar officials managed to exterminate the species. Not a single lynx lived here by 1902. They returned through the Polesia forests and backwoods, but at the beginning of the third millennium they are again threatened with extinction despite their legal protection.

A dozen or so lynxes that live today in the Białowieża Forest are weakened by inbreeding and scientific experiments. Old-growth trees have been thinned out and fail to give them proper shelter. Poaching, though rare, is known to occur. The prospects for the species' survival look dim. In their last natural habitats lynxes are caught and collars with telemeters are put around their necks, threatening to destroy the remains of their Białowieża population. This time it may be forever, as the modern world lacks such areas of wilderness which would once more lead more fit lynxes from distant lands into the Białowieża Forest.

A Foray in the Forest

Late at night *Starosta* Andrzej Kryszpin-Kirszensztein finished his preparations to seize three backwoods areas in Szereszewo Forest: Glinianiec, Krzywiec and Kalinowiec, from the Białowieża Forest District. Nearly a hundred years had passed from the day Szereszewo along with its estates was excluded from royal demesne and officials still claimed the property of others. They destroyed border signs, drove the *starosta's* beekeepers out of the forest and robbed the Szereszewo people of their timber, hay and potash. They confiscated their cattle grazing on forest meadows, disrupted hunts for big game and threatened them with trials at Brest. But when he took his office of *starosta* in 1673 he read the documents very carefully. It was written clearly that those three large backwoods belonged to the Szereszewo private estate and not to the royal Białowieża Forest. They forgot to notify him that back in 1666 under King John Casimir the areas in question were probably incorporated into the royal estate. But documents are documents! So let now King John Sobieski acquire riches somewhere else, preferably in the Turkish camps of Kara Mustafa, and keep his hands off the Szereszewo estate.

In the morning, the *starosta* led a few hundred people into the backwoods to show everybody who was holding power. Their first target was Glinianiec, famous for its numerous trees with bee nests. Covered by soldiers from the Szereszewo company, to the accompaniment of kettledrums, beekeepers started their job. Ignoring the marks of royal property, they climbed the trees as quickly as they could, removed the honeycombs and hurled them down to the ground. Other people followed suit. Sacks and baskets filled with the robbed goods. A huge pot was

brought for the combs overflowing with honey. Someone was sent to bring water, someone else set a bonfire and still another one fetched liquor. Drinking began, encouraged by the shouts of Mr Kirszensztein.

At that point the Białowieża warden arrived with his four companions: a high official, an usher and two noblemen. 'Take them but do no harm to them!', roared the *starosta* and the crowd encircled the newly arrived men. The drunken lord stood in front of the captives with his arms akimbo and shouted menacingly to the royal official, 'If only I want, none of you will leave alive. You will die, one by one'.

The Białowieża warden and his companions were held in captivity for three days and nights. They helplessly watched the *starosta* govern 'his' estate. On the first day he continued to rob honey at the Glinianiec backwood till the evening. On the second day the hard-working *starosta*'s men moved to Krzywiec, where they logged some fine oak and ash trees. On their way back home they quite casually took out the Białowieża warden's cattle and drove the whole herd into the wild.

On the third day at dawn the bells of the two Szereszewo churches, Orthodox and Roman Catholic, started to ring loudly. That was a signal for the old and the young to gather for a great hunt at Kalinowiec. Their good lord, the *starosta*, promised to divide the meat between the soldiers and common people...

The faraway, wild backwoods of Kalinowiec were known for their abundance of game. In spring, black cocks' courtship cries were heard from the peat bog. When acorns matured and fell down, wild boars and deer flocked in sunlit oak woods. Here black-furred bears' winter lairs were encountered and tawny lynxes hunted for roe deer. Sandy hills were spotted with dark holes of badger tunnels. In autumn, giant elk males with patulous antlers fought fiercely on the nearby swamps and in spring their females came here to breed their long-legged calves safely on inaccessible elevations grown with alders...

The distant human murmur reached Kalinowiec backwoods first. The mass of people was approaching from the north. A lynx, still sleepy after its night hunt, opened its eyes wide, jumped down the sunlit roots of a fallen tree and silently disappeared in the dense forest. It managed to escape before the chase closed its ring. A red fox female with mangy fur dashed with its young to their hole. A group of striped piglets warned by their mother's grunt quickly followed the female wild boar towards the swamps. A pair of dark grey wolves ran in the same direction. The growing noise of human voices was joined by trumpets, rattles, dogs' barking, the snapping sound of broken branches and the splash of hundreds of feet wading through forest mud. Up in the trees jays raised the alarm.

All wild creatures that had not yet run or flown away, hid in a hole or the canopy of trees, rushed in fear to the south, where the forest stood still and quiet: elk males and females with their young, long-legged does who left their spotted young hidden in high grass; hares hopped and wild boars trod – straight on the gun barrels of the Szereszewo company.

A volley of shots from dozens of muskets and harquebuses rang out, answered by the triumphal roar of the chasers. Hurry, hurry, load the

guns again, put some powder in and fire! Another salvo exploded, not as smooth as the first one, and then a thunder of chaotic gun fire overwhelmed the forest...

When the forest fell silent again after the last fully-loaded wagon pulled by two horses and the last hunter left the blood-bathed backwoods, the forest was covered by the merciful darkness of night. Among the surviving animals that hid in the darkest corners there was not a single elk left...

In spite of King Jagiełło's decrees and those of his successors on the separation of royal demesne, no definite borders of the Białowieża Forest were marked for whole centuries. It was caused in part by topographic conditions: rivers changing their beds, timber palisades, swamps and marshes which no commission could go through made the measurements difficult. But the main obstacle was the active opposition of the local nobility and lords, whose families claimed the rights to individual estates, often cutting deep into the forest. The preserved documents list many famous names of Polish magnates, such as the Czartoryski, Branicki, Radziwiłł and Tyszkiewicz, and contain descriptions of many lawless acts of violence. The disputed areas were raided, border signs cut in trees were destroyed and mounds were levelled. Timber was felled for sale and for the construction of new villages. People and their property were subjected to violence.

In 1592 King Sigismund III Vasa sent his inspectors to Białowieża, for he was reported that forester Trojanowski on behalf of the king's aunt Anna controlled a great part of the Białowieża Forest that he claimed belonged to Bielsk. He burnt wood for lye without the king's permission, thus 'doing great harm to the forest'. The king also ordered beekeepers to report to the inspectors and 'testify truthfully what belongs to which forest district, and mark the border, so that the Bielsk forester can no longer trespass on the Białowieża Forest'.

The foray of Andrzej Kryszpin-Kirszensztein into Glinianiec, Krzywiec and Kalinowiec territories in the southeastern part of the forest (now in Belarus) took place in 1684. One of the forced witnesses, the usher, wrote down that violence was used ('they were nearly killed'), more than a hundred bee nests were destroyed, cattle was stolen, and 'the forest was harmed'. The case was brought to court, also on charges of tree-felling and hunting together with soldiers of the Szereszewo company. 'They killed and wounded a tremendous amount of game, they shot at pregnant hinds'. A long list of game poached between 1680–1685 was

attached. The verdict was validated by King John III Sobieski in person: the backwoods under dispute along with the Szyszkowszczyzna manor were incorporated into the Brest district. It is unbelievable, but the *starosta* was punished neither for the damage of royal property nor for the assault on officials. And

that was not the end of the story. A hundred years later, in the times of the royal treasurer for Lithuania Tyzenhauz, the same backwoods of 2,120 ha were seized by Prince Adam and Princess Izabela Czartoryski, who clearly ignored the border commission's decision.

The elk is the largest representative of the deer family in Europe. Its shoulder height reaches 2 m and total length 3 m. The biggest bulls weigh nearly half a tonne and their antlers, stretching over 1.5 m, can weigh 25 kg. Formerly, elk antlers were broad and flat with countless branches of various length. At present, most of them have short, thick beams branching out into several finger-like tines.

The first antlers grow on 15 to 17-month-old males. At the beginning they only form short knobs. Antlers are shed every year, by strong bulls in December and January, by old elks in November, and they regrow even more imposing. Elk females, called cows, are a little smaller and do not have antlers.

The elk looks like some strange monster of the past. It has nothing in common with the harmoniously-shaped roe deer, fallow deer or even a bit heavy red deer. This inhabitant of primeval forest and marshes represents different criteria of beauty, which are truly fascinating.

Its long white-coated legs end in widening black hooves which protect soft digits. The sharp edges of the hard, hornlike hooves enable the animal to walk on ice or smash a wolf's head with one blow of its foreleg. The coat on its back and sides is tawny in summer and dark grey in winter. The belly and the inside of its legs are greyish. The front of its body is taller than the hips. The neck is short and maned and the muscular shoulders are topped with a small hump. A fleshy dewlap, called the bell, hangs from the throat in both sexes. It has 15–30 cm and is covered with fur. An elk's head is unusually huge, the muzzle is well-developed and protuberant, with the pendulous upper lip covering the lower one. The coat on the whole muzzle and the nose is soft and velvety.

Elks prefer to live in vast and wild swampy forests with a lot of marshes and bushy meadows. They can easily walk on very wet and boggy soil owing to their long legs and large hooves protected by a fold of skin as well as very sensitive digits. They like to swim and dive in search of tasty plants growing on lake bottoms. They feed on leaves, branches and bark of trees, herbs, grasses and moss. Most of all they like young pines, willows, ashes and hornbeams, heather, bilberries and wet-ground herbs.

Most of their life both males and females roam about their territory, marching slowly or trotting from place to place. In September, the mating time, bulls roam around even more. They

produce a typical groaning noise while looking for mates. If instead of a mate they meet another bull, it may end in a fierce and bloody fight going on until one of the fighters is killed. But it is more common just to scare each other and go their own ways. In winter elks gather in small groups of several animals of different sexes and ages.

Calves are usually born in May. Older and stronger cows can have twins, while young cows as a rule have one calf only. The young, which resemble neckless colts, are born rather weak and need the constant attention and care of their mother. The moment they lose sight of her, they begin to cry in despair. They do not start to walk with their mother till four or five days after their birth. They are fed milk for nearly ten months but as early as their second week they start eating plants.

Well-fed, they grow fast and develop their own imagination and some independence, but they stick to their mother until the following spring, when other young are born. Even then they are slow to leave for good. A six-month calf weighs 120 kg, a year-and-a-half one 250 kg. They mature sexually in their third year and are fully grown in the sixth. If they are lucky not to fall ill and not to fall prey to wolves or humans, they can live up to 30 years.

In old times elks had excellent conditions for living and reproducing in Lithuanian and Polish forests, rich in wild wetlands with backwoods abounding in plants for food. Protected by royal law, they survived in the Białowieża Forest in more or less the same numbers till the partitions of Poland, despite hunting and poaching, which increased particularly in times of war and interregnum.

In 1797 Tsar Paul I issued a ukase, or edict, demanding the delivery of elk hide for his army. By the end of spring (!) that same year Białowieża forester Ostromecki was ordered to take shooters and beaters and 'kill as many elks as they could find'. As a result, on 5 June two adult elks and a few days' old calf were killed. The hunting officials managed to interrupt the slaughter on the grounds that a summer hunt was inefficient and elk hides of little

value. In February 1798 Krzysztof Engelgardt, a warden of the Brest forest district, sent a report to the vice-governor Volkov, in which he asked the exact number of elks to be killed, of the 125 which still lived in the forest, to be specified. Volkov answered with a letter of 10 February, ordering to kill 40 elk males.

The situation did not change until Tsar Alexander II, an enthusiast of hunting, came to the throne. When predators were killed off, the Białowieża Forest was turned into a controlled hunting grounds abundant in herbivorous animals. The number of elks grew. However, from 1910 the forest animals were decimated by successive plagues and the anarchy of the First World War period took its toll. When the Polish authorities took over the Białowieża Forest in 1919, they found no elk there.

The vast forests of the whole northeastern Europe suffered a similar fate. Before the First World War, some 1,500 elks inhabited the Vilnius, Novgorod, Polesia, Volhynia and Białystok provinces. Marching armies between 1914–1918, followed by the Polish-Soviet war of 1919–1920, which was fought mainly in those territories, destroyed the population of elks. After the armies withdrew and before the civilian authority came to govern, the hungry and depraved people stole timber and poached without any inhibition.

Early in 1921 the five provinces altogether had only 40 or 50 elks left. Three specimens lived in the area of Prince Karol Radziwiłł's Dawidgródek entailed estate. The prince was a great supporter of the idea of saving the species. Some time later five elks arrived and joined the small herd, which was taken under strict protection by the prince. In the excellent environment of vast marshy wilderness the elks multiplied quickly; within a decade they amounted to 140.

Similar protective measures were undertaken by a few other landowners: the Potocki, Chotynicki and Jundziłł families. As a result, in 1931 70% of the whole number of elks lived on the estates of the wealthy hunters. The remaining 30% were dispersed

over the huge area administered by four state forest managements, where poaching was still a great problem for the lack of wardens. The State Forest Board tried to solve it by establishing reserves in elk habitats, where strangers were not allowed. They offered rewards for catching a poacher and the killing of a protected animal was punished by courts with a fine of 2,500 zł and six months in prison. All that was not enough; elks were still being illegally hunted.

The Game Law issued by the president on 3 December 1927 included the elk among hunted animals. Bulls could be hunted from 1 September till 14 December in game districts of at least 1,000 ha. Cows and calves were under protection. At the same time the minister of agriculture suspended any elk hunting till 1 January 1933.

Domesticated elks Pepsi and Kola

On 6 November 1930, 2,420 ha of woodland in the Kosów district in Polesia was completely excluded from use and an elk reserve was established there by the State Forest Management at Białowieża, with some 30 elks.

On 13 May 1932, a section for elk protection and breeding was established within the Polish Union of Hunting Societies, the precursor of the Polish Hunting Union. Its tasks included the study of living and reproduction conditions for the elk in Poland and activities aiming at a better protection of the species. It was to work out methods of controlled breeding, with shooting weak bulls and those with poorly formed antlers, to fight against poachers, to propagate elk protection and breeding principles and to cooperate with parallel organizations abroad.

On 13 September 1932 President Mościcki killed the first elk in the Rudnica Forest, thus 'restoring a royal status to it', as it was then said. In 1935 as many as 11 bulls with the finest antlers fell prey to hunting passions.

Between the two world wars there were no elks in the Białowieża Forest. Therefore six females and two males were brought in 1937–1938 and placed in a 5-hectare enclosure. When the last war broke out, they amounted to nine or ten specimens, according to various sources. The reserve was closed and the animals were let free. The fate of half-domesticated and trusting animals suddenly living in the wild is always the same: they soon fall victim to human greed and cruelty.

From 19 to 23 October 1945, a commission visited the Białowieża Forest. One of its members, T. Szczęsny of the National Parks and Reserves section of the Nature Protection Bureau in the Ministry of Agriculture, said on the spot, 'There is a justified assumption that one male elk inhabits the forest at present'.

And he was right. On 4 February 1946 a bull was caught by poachers in the Browsk forest division. The crime was discovered by S. Korzeniowski, the commanding officer of local militia, who

arrested the poachers and confiscated their arms. It was probably the only elk that survived the last war. Except for one unchecked report of finding tracks of a pair of elks in the strict reserve of Białowieża National Park in November 1946, for many years that followed no one saw an elk there.

Only a few specimens of elk were left in the whole new post-war territory of Poland. In 1948 three were reported to live in the Gołdap forest division, four in the Rajgród one. Single elks roamed in the Olsztyn and Białystok provinces. The species was defined as rare and strictly protected.

On 30 January 1948 two pairs of one-year-old elks born in Sweden were brought to the Białowieża Forest thanks to the efforts of the director of the Warsaw Zoo, Jan Żabiński. Two of them died within several days. Another group of five young elks (2 males and 3 females) were imported from the Soviet Union in November. In a short time two of them died.

Another attempt was made and on 29 April 1949 a one-year-old female was brought from Belarus. She was very timid and wild. Other elks maltreated her and would not let her near food. She was eventually killed by a two-year-old bull. Strangely, it did not occur to anyone that she should have been separated from her aggressive kin.

In May 1951 the first calf, a female, was born in the enclosure in Białowieża National Park. On 12 July another young female was taken away from peasants in the Kurpie region and brought to the enclosure. By autumn it sheltered seven elks of different sexes and ages. But within the next few years the animals kept dying until all of them were gone.

An attempt at elk breeding was made again in the early 1990s, when the National Park management took two male calves from the zoo at Białystok. They were entrusted to my care in the Dziedzinka forester's lodge. I named them Pepsi and Kola. The former name was given after the glass Pepsi-Cola bottles from which the calves were fed milk at the time. The latter, while also

referring to the popular soft drink, was also a very common name in the eastern regions of Europe.

Elks are very hard to breed in captivity due to their specific nutritional requirements. I worked out a special diet for them and walked them in the forest everyday so that they could supplement it with whatever they needed. The calves grew unbelievably fast.

Elks get unusually emotionally attached to their mothers. My almost motherly feelings to them were answered with the same kind of attachment, which did not cease even when they grew up. My heart was breaking when in December I escorted them along a path leading through the strict reserve, through meadows on the Narewka and the forest to their distant place of habitation: an enclosure in the display reserve of Białowieża National Park. I visited them nearly every day for more than a year. I cleaned their enclosure, changed water in their trough and watched the preparation of

An ash and alder fen

their forage. I fetched them fresh pine, aspen and sallow twigs, bilberry shrubs and apples. I noted down all breeding instructions in a special notebook. Then my disinterested help was simply rejected.

A few months later the peaceful and gentle Pepsi broke a rotten board of the fence and went out for a walk. He went to the most remote edge of the Białowieża village. Within the first 24 hours of his freedom he was dead. Some of the witnesses said that he was looking in through some fence when a loop was put on his neck, he was tied to the fence and his throat was slit.

The other of the elks I bred was more ill-humoured and aggressive. Kola learnt to react sharply to the bad treatment of some caretakers. He was big and strong and they were afraid of him, so they took a chance to get rid of him. Once he left the poorly protected enclosure and walked freely around the reserve ground. Another time he damaged the feeding trough when cleaning his antlers of velvet. Instead of placing him in one of the zoological gardens, where he would be treated well and protected with a safe fence, they sentenced him to death. Kola was shot by a national park employee. I saw his huge carcass being transported on a wagon across the whole Białowieża village to the local butcher's shop. For some time afterwards the local restaurant offered elk meat dishes on its menu. Such a grand animal was just cooked and eaten.

The species in general was quite well in postwar Poland. In the 1950s any killing or keeping of an elk was severely punished with up to five years imprisonment or a high fine (50,000 zł) paid to the State Treasury. Thanks to this protection the elk population increased. In 1958 elks lived in two areas. One of them, in the Białystok region, included the Czerwone Bagno swamps near Rajgród, the vicinity of Kobielnia in the Grajewo district, as well as Augustów and Mońki. Here the elks that survived in Poland and newcomers from across the eastern border found their habitat. The other elk habitat was in the Kampinos Forest, where elks

from Belarus were imported in 1951. In 1956 they numbered 30 and a half of them were set free. The next were freed in the following years.

That modest number of elks, mixed with imports from the east and single specimens living in West Pomerania and near Augustów, kept growing rapidly. In 1958 the population of elks was estimated at about 180. On 17 June 1959 the elk ceased to be a protected species and again it became a target of hunters.

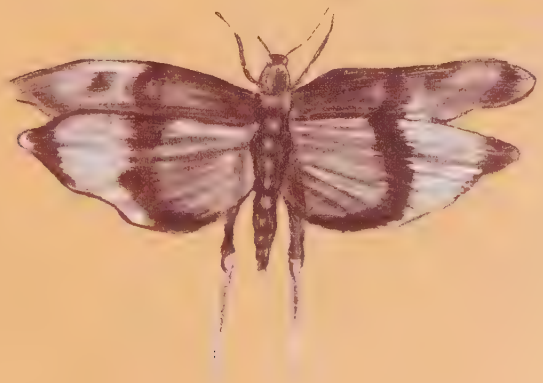
While at the end of the 1970s and the beginning of the 1980s their number rose to some 6,000, elks earned themselves a bad reputation doing damage to forest nurseries, of pine in particular. They were shot on a mass scale and in the 1990s their number diminished alarmingly.

These days a group of several elks lives in the Białowieża Forest and they have not been a target of hunters for a few years now.

'The Wrath of God'

As the first sunbeams of July warmed the earth, millions of winged, armoured bodies started to move and millions of chitinous jaws began to crunch the leaves and twigs that still remained on grasses, shrubs and tree branches. Without stopping their meal, more and more hordes of brown and olive-green insects descended to the ground until they covered it with a three-mile-long and two-mile-wide carpet. Around noon, heated by the sun and pulsating with excitement, the swarm was overcome by one desire: to find a new feeding ground. One by one they spurted to flight, till a fluttering cloud veiled the sun, which moved towards green meadows and fields cuddling up against the dark wall of an age-old forest on the horizon. They left countless masses of flightless nymphs on the ground, as determined as their winged relatives to follow the same direction. They jumped and walked over their dead companions and other obstacles and swam across rivers.

The sky darkened and the air vibrated when locust bands started to drop down on human settlements and forests. Tree branches bent under



the weight of thousands of migrants; dead trees were broken. The hungry swarm of a million stomachs and sharp jaws covered the forest undergrowth, fields under the plough and meadows where cattle was grazing.

The helpless villagers from Omelaniec watched the terrifying phenomenon – the second such disaster in the cursed year 1690, and much more terrible than the one in the spring. The first time they managed to destroy the first heralds of God's wrath. As soon as the marching flightless locust bands were spotted, the whole local population came to the rescue. They gathered the insects with pails and threw them into quickly dug trenches, where they were burnt and covered with soil. Although spring crops were completely lost, winter crops and meadows stayed untouched by the locusts. It was also some compensation that domestic animals, starving throughout winter, now had some good nourishment. Dogs, cattle, hens and geese fed on the insects with great appetite and they put on weight. In the nearby village of Świnia Wola all the pigs were let out of their sties to join the feast. This time the poor people lost everything. They could only despair and go on living...

At the Hrebeniec forest range wild boars indulged in a feast which had already lasted four days. A side wing of the locust swarm was blown by the wind sideways from their main route and landed on a woodland interspersed with meadows. Herds of wild boars learned the news and came along: sows with their striped young, exceptionally numerous that spring. Even old male boars, though loaners by nature, joined the feast together with young ones. With a lot of smacking and snorting noises they crunched the hard thoraces of the insects. When full up, they lay down in the nearby spruce wood, to resume their meal after a short nap.

Night fell when another big herd arrived at Hrebeniec, led by a sow surrounded by her young. But that was a strange herd: among furry, brown and black wild boars with long bristle hair and long snouts equipped with sharp tusks, now and then bodies coloured light grey or with patches and covered with scarce bristles appeared...

A herd of pigs let out in spring to feed on locusts and gain some fat was not watched properly; the animals ran away from human settlements

to finally vanish in the forest. The animals paid a high price for their freedom apart from losing their safe sty: most of the piglets were eaten by wolves or lynxes and the two heaviest boars were drowned in the depths of the swamp. Fortunately the instinct inherited from their wild ancestors started to awake. The pigs became more and more alert in sleep, better at foreseeing danger and swifter at running away from enemies. When they had already become part of the forest, they met a herd of wild boars for the first time and their kin looked so scary to them that they ran away. But upon their successive meetings their fear lessened and curiosity grew. They followed the roaming herds and they learned that those strange shaggy pigs always went to places rich in food and safe habitats.

A boar looking for acorns

After some tragedy that had taken place in the forest, a lonely female wild pig was lying wounded in mud, surrounded by a group of young. They were hungry, for their sick mother had not enough milk to feed her own and six other orphaned kids. A herd of domestic pigs were taking a mud bath nearby. Smeared all over with mud and resin to which needles stuck, the pigs grunted with obvious delight. They differed very little from any herd of wild pigs. The wild piglets were lucky. The bravest of them approached a sow which had lost her young the other day and started to suck her swollen udder. The sow grunted in consent and soon six striped wild piglets were drinking her life-giving milk.

The villages close to the forest were struck hard by the 'Wrath of God'. A few days after the winged swarm, a mass of wingless locusts marched in, though the area was already completely stripped of vegetation. At that point another disaster struck them: a cold that no one remembered at that time of the year and many days' rain, which killed off the army of locusts. The air was poisoned with a lethal stink of rotting insects. Cattle died out and eventually there came a terrible famine.

Deep in the forest the overfed wild and domestic pigs walked side by side through the forest. They met other sows with their young. A few boars joined them. The whole herd went deeper and deeper into the primeval forest, far away from human settlements.

One of the ten plagues of Egypt, called the Wrath of God by Jews, was a plague of locusts. Not only the distant countries of warm climate were ravaged by migratory locust. Its two species also lived in Europe, where they laid down batches of cold-resistant egg-pods in the soil. Flightless nymphs known as 'hoppers' hatched late in April. They marched onwards in search of food. In mid-July they transformed into mature winged locusts and migrated in huge swarms from place to place.

Both hoppers and adult locusts have a strong urge to associate in bands and to follow one another, which causes the swarm to move in one direction. When they amass into a great crowd, they become gregarious and suddenly start to migrate, no matter if they have eaten all that was to eat. Marching or flying locusts are joined by every locust they meet on the way. Finally, they drop down on some distant area like an avalanche and the whole place is devoured of any greenery.

Chronicles mention the successive locust plagues in Poland, Lithuania and Ukraine in the years: 1648, 1690, 1711, 1747–1748 and 1802–1804. The memoirs of the *starosta* of Brasław, Krzysztof Zawisza, contain a shocking description of the locust plague in 1690.

In the spring of 1802 the disaster struck seven districts of the Grodno *guberniya* (province). It had the greatest intensity in the Brest and Kamieniec districts on the southern edge of the Białowieża Forest. In the Jamno estate about 26 acres of wheat and barley was lost. A year later locusts came in immensely greater numbers. People struggled with them for four consecutive years. The insects were destroyed on their breeding sites, when marching or landing. In the Kobryń and Brest districts near the forest 150 'swarms' were destroyed and 15,000 bushels of insects were killed; in the Mińsk *guberniya* – 2,000 barrels. Trenches were dug during the day and at night the pests were covered with straw and set on fire. However, on the next day new swarms arrived so numerous that 'dead trees broke under their weight'.

In 1804 the Wrath of God struck for the last time. Hoppers appeared in six districts. The worst situation was in the vicinity of Kobryń, where 90 villages were destroyed, and in the Prużany district. 11,000 people struggled against the insects, but part of them managed to develop wings, which made matters still worse. On 21 July 'an immeasurable multitude' of locusts landed on 10 square versts (about 4.5 square miles) of the Radziwiłłs' estate at Czarnawczyce. The common effort of people, their consistent fight against the pests, especially on their breeding grounds, and probably a change of climate finally gave results. The last report of locust plague in the Slonim district (now in Belarus) dates from 1815.

In fact, it was not the last locust invasion. The daily *Rzeszów Review* of 15 June 1884 informed about a sudden arrival of several big swarms of locusts near Lutoryż and Boguchwała near Rzeszów. 'The swarms never stopped; not a single of those voracious insects left the ranks, but they flew across the fields to the southeast as if following one command. People told us that three years earlier crowds of locusts appeared in the same area. They ate all green plants and even some thatches on the roofs, leaving but bare rafters'.

For many centuries the wild boar was of marginal importance for hunters. Faced with so many natural enemies, the species was not very populous in Europe. It was not until the Middle Ages, when primeval forest kept deteriorating and big game along with it, that a risky wild boar hunting became an attraction and an element of knightly training. A 200 kg male armed with huge and sharp tusks was a deadly adversary for hunters with cold steel or primitive and inefficient firearms. Thus, the old saying went, 'against a bear – take a balmy cure; against a boar – get yourself a bier'.

In the late 18th century wild boars were killed off in many countries, because they were a nuisance to farmers. In later times

they either returned themselves or were reintroduced in their former habitats in such countries as Holland, Denmark and Switzerland, but their future was not expected to be rosy. The West-European hunters a century ago were still of the opinion that the animal, though noble and intelligent, was not able to survive because of modern agriculture.

It is hard to believe, but in Germany the protective season for wild boar females with young, lasting from 16 March till 15 July, was not introduced until the end of the First World War. In Poland wild boars remained outside the Polish game law until the early 1930s. They could be shot in any number at any season no matter what age or sex. As it used to steal young oats and potatoes from the fields, wild boar was treated by farmers as a dangerous pest, such as wild rabbit. It took some time for people to understand that wild boar was invaluable to the forest. It destroyed larvae and rodents, quickly removed carrion and when looking for food it loosened the soil and mixed it with fallen leaves, thus airing and fertilizing the forest floor.

A meeting with a female wild boar

Wild boars living in the Białowieża Forest have never been threatened with complete extinction. Despite the twists and turns of their fate caused by excessive hunting, poaching, predators, disease and plague, their great reproductive powers, wide food preferences, intelligence and group living guaranteed their survival even in the worst times.

Today a moderate number of them inhabit the forest, which might have been caused by a considerable deterioration of forest environment, including the enormous decline in the number of mature oaks able to bear fruit, or acorns. Huge boars weighing up to 300 kg are no longer met, but this could be changed by means of appropriate protective measures.

The wild ancestor of domestic swine is extremely well adjusted to life in dense forest with rich undergrowth and to harsh climate. Its body is stout and tall at the shoulders, resembling a crucian carp in shape, which makes it easier for it to force its way through dense woods. Its large, long and narrow head on a short neck covered by massive muscles ends in a huge snout with a flat rhinarium, or the tip of the nose, serving for ploughing the soil, raising small roots, digging holes and rooting around for food. Also its strong lower and upper tusks and even incisors help in these activities. The animal's legs are not too long but strong, enabling it to run fast with long jumps. Their swift walk is hampered only by deep snow.

During severe winters their herds move slowly along tunnels dug in the snow. When the snow conditions get extreme and the soil is covered with several layers of hardened snow, wild boars die of exhaustion. Therefore the species does not inhabit northeastern regions where the number of days with more than half a metre of snow is too great.

Wild boars are called black animals by hunters, though they are not exactly black. Most of them are dark but there are some grey and brown specimens, or sometimes tawny like dry grass in early spring. Regardless of the coat colour, legs, hooves, tail and ears are almost always black. The hair is long, shiny and stiff but elastic, split at the end. When the animal is scared or excited, the hair on the back and neck bristles, making the animal look several centimetres taller. A soft woolly undercoat grows under the bristles for winter to protect the animal from frost and damp.

Wild boars belong to the most intelligent animals. They react correctly to situation changes and are quick to draw conclusions from their own experience. When they are persecuted, they become so alert and cunning that they can fool anyone. Their olfactory organs are so sensitive that they can smell an enemy at a distance of 200 or even 300 metres. They use smell to track wounded animals and dig delicacies hidden deep in the ground.

Of the multitude of wood habitats in the Białowieża Forest, wild boars prefer deciduous forests mixed with dense coniferous thickets in the vicinity of some water or swamp. They are clean animals in their own way: mud baths rid their skin of parasites and heal their wounds.

Wild boars are omnivorous. Vegetable food constitutes some 80–90% of their diet and they like to supplement it with animal protein. Their vegetarian menu includes fresh herbs and grasses, herb bulbs, rhizomes and roots, mushrooms, fruit and seeds of forest plants and cereals. Of wild-growing food, acorns and beechnuts are their favourites and of those grown by man – green clover, pea, broad bean, oats and potatoes. When acorns mature

on oak trees hordes of wild boars hang around until they have eaten all of them. At other times they can become pests to cultivated fields.

Their animal food is equally diversified. They eat larvae, pupae and adult insects with the same appetite as worms, snails, amphibians, reptiles and fish dug up from the mud of drying-up small lakes. They also eat rodents, bird's eggs, baby roe deer and hares, as well as carrion. They can scent a wounded animal and their predator instinct makes them kill it.

Wild boars live in groups of mixed age and sex. Led by a sow, they roam the forest, feed together, bathe in muddy pits and rub their backs on nearby trees. They sleep together, at a certain distance in summer and huddling closely in winter. On very cold nights sows with newborn piglets sleep in the middle, surrounded by two- and three-year-olds, who warm them with their own bodies. Only old boars prefer solitude or the company of just one younger boar. They join the herd during mating season. Also some very aged females live a solitary life. Their lairs can be found in such unusual places as an ant hill or in a very thin forest.

At the beginning of every winter wild boars play the same ritual. Amid terrible noises of broken branches, squeaks and squeals of the young, snorting of terrified sows and growling of angry boars, adult males fight with their tusks for the leadership of the horde. The blows of long and sharp, curved tusks are rarely dangerous, for when in heat the skin on the back and sides of the males gets 2 or 3 cm thicker, forming a kind of armour. As a rule, the bigger and heavier boar wins and the looser must seek another chance.

The effects of mating come in 130 days. Shortly before, the sow prepares a lair for bearing young. First, she finds a quiet place in a dense thicket or inaccessible backwoods. Then she burrows an oval, 2-metre long pit in the earth. The burrowed soil and leaves form its half-a-metre high walls. She pads the nest with a lot of moss, dry grass and fern leaves she brings in her snout. If there

is no spruce canopy over the nest, she builds a roof of broken tree branches and needles. In such a 'cradle' she gives birth to 4–8 striped young wild boars. They stay in the nest for up to two weeks. Then they start to go for short walks with their mother, when they nibble at some plants or eat the insects dug out by the sow. After a month they can dig them out themselves but they feed on milk for another three months. When a sow takes her young out of the nest, she seeks the company of similar groups. Such family herds usually consist of 2–4 mothers led by the oldest of them together with a dozen or so small wild boars. Any sow would never hurt another sow's kids.

Female wild boars have strong maternal instincts. A sow with young would always taken motherless piglets under her care. Although she perfectly distinguishes her own litter, she is sure to take care of and feed orphans. When a sow leads several young which differ in size, it means some tragedy in the forest had a happy ending for the orphaned young.

Domestic pigs of more primitive breed, which were common in the past centuries, were often grazed in the forest. When they were left at liberty in times of turmoil, they did very well in the wild. Sometimes they crossbred with wild boars.

The Autumn Fog

The first to arrive at Jamno manor were dispatch riders. Then came wagonloads of food, carpets, furniture and expensive mirrors for house decoration. Servants and local village people were called together, including young maidens with slim waists and rosy cheeks. They rushed to clean the rooms and incense them with juniper twigs. Barrels full of mead and beer were rolled down to the cellars and freshly baked bread was piled in the manorial kitchen. 150 wardens set out to the forest in order to check whether all roads were passable and if the bridges built across rivers and swamps were fit to carry the royal carriage.

'King Augustus II the Strong' by unknown painter

The people were very glad that their monarch would come. It was already the fifth year that the two sisters, War and Poverty, ravaged the country. There was no end to armies marching and requisitions. The country's soldiers looted as much as the Swedes and Saxons. Not long ago

the armoured company of His Lordship voivode of Brest plundered the villages of the Białowieża forest district. The visit of the king and his armed retinue would stop the hostile acts of violence for a while and the leftovers from the royal table and the hunted game would save some of them from starvation.

How could illiterate commoners living in forest depths far from the great towns know that it was the perpetrator of their disasters himself who was going to visit the sacred forest of the Jagiellons: King Augustus II, elector of Saxony, a merry-maker and drunkard without honour or dignity, an enemy of Poland elected to the throne by the Poles themselves. It was he who attacked the distant Sweden without consulting the Sejm. And now instead of defending Saxony from Charles XII, he continued his revelries. He slipped out from Leipzig as far away as Grodno to Tsar Peter's camp. From there he had a short way to the hunters' paradise unique in the whole of Europe – the Białowieża backwoods. Let this forest's game also get to know the heavy hand of their ruler!

The stone sundial decorating the courtyard at Jamno showed noon when the royal retinue appeared at the gate. The procession consisted of a dragoon company, four pages and the same number of carriage and eight saddle horses of Augustus, the king's carriage with the coats of arms of the electors of the Holy Roman Empire painted on it, carriages with dressed-up ladies, Polish lords and guests from Dresden and Vienna, followed by musicians, courtiers, hunting dogs and servants. The king was riding a grey steed. A man in his prime, of a herculean figure and extremely sensuous nature, he was kind and polite in manners. He mastered all male arts, such as horse riding, fencing, shooting, dancing, hoop-catching and constant romancing, which filled his whole life. For this occasion he wore modest attire, suitable for travel and hunting: a blue velvet robe lined with fur, here and there ornamented with diamond buttons, and a sword at his side, shining with gold. The nice curls of his wig hung loose on his shoulders and he wore a feathered hat cut in the Spanish style.

As soon as His Majesty had changed his travel robes, a meal was served. One by one dishes disappeared from silver platters, waiters

quickly refilled wine cups and it was getting more and more merry and noisy in the chambers. The king's mistress asked him to show off his strength. The show included horseshoe breaking, a silver cup folded and rolled up by the king's hand and a thaler crumpled like a piece of paper. 'A Samson, nourished with lion milk', shouted his flatterers. The feast lasted till the late hours, when all went to sleep. Even then whispers and giggles were heard in the darkest corners of the manor and male silhouettes were stealing into women's bedrooms.

Early in the morning they set off hunting. The victims of the hunt were already waiting in the Wielka Kletnia game enclosure near the Jelanka River source.

Augustus II the Strong, a super-strongman fascinated with the legendary Jagiełło, went hunting with a javelin and a knife, leaving firearms to the courtiers. He did so on that day. Shooters and beaters led by the master of the hunt Karol Leubnitz drove a herd of wild boars. The animals, scared at the sight of such a crowd of people and bitten at by dogs, kept running in circles. The monarch jumped now and then to hit them, pierce them and kill them. When he was jabbing a really huge boar, ladies squealed in terror, but then they rewarded

'Forest Landscape with a Deer' by F. Brzozowski

him with applause. Some more courageous lords tried to follow the king's example; others confined themselves to shooting a harquebus.

Amidst the greatest fun of such hunting, suddenly a great, infuriated, furry animal dashed from the bushes straight at the king. It stood up on its hind legs and took the monarch in its deadly embrace. No one noticed the bear walk into Wielka Kletnia, where it must have been looking for a lair. In the silence that suddenly fell they heard but a flat growl of the animal and the panting of the man who struggled with it. Then the bear wheezed and loosened its grip. Its body fell to the ground, with a knife plunged deep into its furry chest. The onlookers saw the king's chalky white face smeared with blood.

For the first time in his life Augustus did not boast about his victory. He took a loaded musket from his servant's hands, wiped his face with a sleeve, whistled for the dogs and left the game enclosure on his own to cool down after his meeting with death. Without choosing his way he just went straight on till he stopped under a wide oak. He was himself again, getting angry at the thought that some fool from his retinue could suspect his master of weakness. The proud king of Poland from the Wettin dynasty, always cold-blooded and covering his feelings well with a polite smile, showed his face go pale with fear in front of the court mob.

Then he saw a snow-white deer in front of him. Like St Hubert, he had a vision of a holy sign between the stag's antlers. The monarch smiled cynically. When he played with his dogs he used to hang that sign along with the whole rosary on their necks. He was not afraid of the Białowieża bear, so he would not be scared by a crucifix!

He raised the musket to his eye and fired. The vision was gone. Only the autumn wind blew away the early-evening fog...

From that day on nobody ever saw a true Białowieża deer.

The royal demesne of the Białowieża Forest and the Kamieniec Forest south of it shared a common management. Therefore the forester's residence had to be situated in a place facilitating the easy administration of forests and the local people. The manor house and farm at Jamno was a perfect place for that. It was located between the Białowieża Forest and Krzemieniec, where in the 1920s Otto Hedemann found some ruins on a hill 12 km from the south edge of the forest near the village of Jemenka, now in Belarus. The oldest written record of the Jamno manor dates from 1625 and concerns 'the bringing of a poacher to the forester's court'. The Ordination of 1639 mentions the 'old' manor farm at Jamno, which 'burnt down, so a new one is being built'. The inventory of the Białowieża forest district of 1670 describes the manor and its surroundings, the big several-room house with a tile stove decorated with the coats of arms of the Doenhoff family. It lists the forester's residence and office house, farm buildings, the inn, brewery and malt-house, an orchard with beehives, a pond with crucian carps, 79 domestic animals, poultry, 84 hectares of cultivated fields, the entrance gate facing Krzemieniec, and even a stone sundial in the courtyard. During the so-called Deluge period the manor house was badly destroyed; for instance during the incursion of the Hungarian army all the Doenhoffs' tiles were holed by bullets fired by drunken soldiers.

At the turn of the 18th century the rulers who came to hunt in the forest preferred to stay at Jamno than at Białowieża, which was small, only beginning to develop and hidden in the forest. In 1700 Augustus II sent an inspection 'for forestry revision' to Jamno. On that occasion the court master of the hunt committed himself to continue the repair of the buildings 'for His Majesty the King's convenience, when he arrives here for hunting'.

In the years that followed the forest area was reduced and it began more to the north beyond the Biała River. Cultivated fields divided the Białowieża Forest from the Bielsk Forest and Jamno was situated amid a vast open plain. It could no longer serve as

a forester's seat and the royal hunting lodge. In the 18th century it was leased as an ordinary manor farm with a number of subject villages. After the partitions of Poland, the Jamno estate was given to the Russian general Lansky. In the late 19th century all better buildings were sold and carried away. Only some ruins and wastelands around them remained.

Białowieża took over the function of Jamno and developed rapidly. The administration of the forest was reorganized. It was divided into two quarters: the western Białowieża one with the forester's seat at Białowieża and the eastern Jamno one with the forester's seat at Królowy Most.

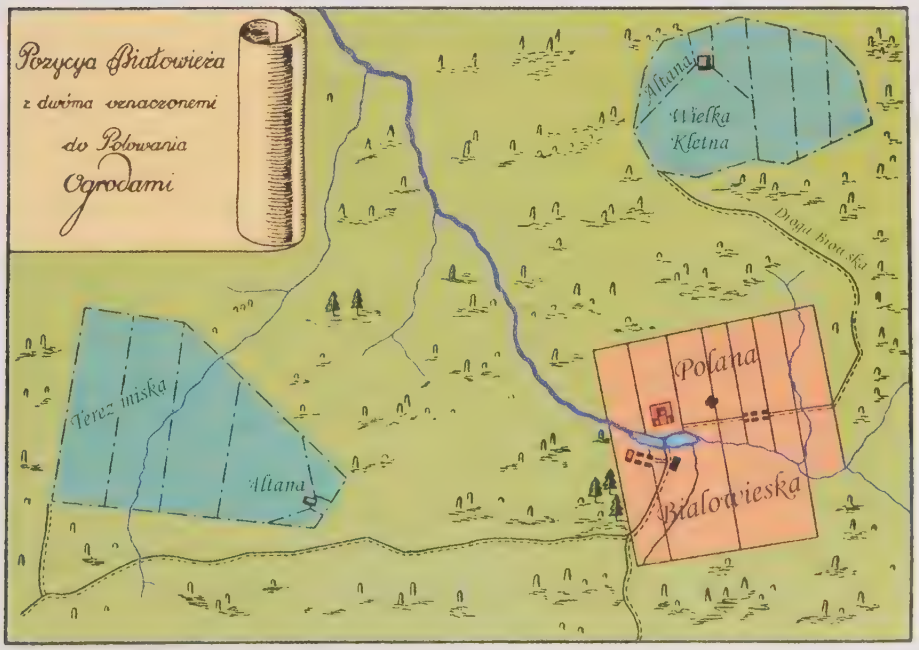
The Wielka Kletnia game enclosure, where animals were driven to make things easier for hunters, was established back in the times of King Bathory. It was situated near the source of the present Orłówka River and the house I live in: the Dziedzinka forester's lodge. Sometimes when a strong wind blows it seems to me that the sounds of muskets firing, barking of crazy dogs and moans of murdered animals are still coming from the north. It is a requiem sung by old trees, which can remember royal hunts.

Times changed, along with the names of rivers and villages. The kings on the Polish throne and their nationalities changed. Only the habit of killing the beings which could not escape never changed and always flourished. But it is thanks to those helpless victims of kings and tsars that the Białowieża Forest has survived at all.

An atlas with the initials S.A., once owned by King Stanisław August Poniatowski, has been preserved. It is a collection of maps of His Majesty the King's Tract with its surroundings made in August 1784 by a surveyor named Polchowski. It contains 10 maps drawn in ink, each depicting a different fragment of the King's trip to the royal estate of Brest. Two of them show the Białowieża Forest: one specifies its borders and division in the times before the partitions, the other is entitled 'The Situation of Białowieża with two Gardens marked for Hunting'.

The drawing outlines some paddocks of a few hundred hectares, where game was driven to be shot by the king from tall pavilions. The first game enclosure, called Teremiska, lay near the main road connecting Białowieża with the outside world. A century later it went down in history as the famous Zwierzyniec (Game Enclosure), the hunting grounds of Russian tsars. It was crossed in the middle by the Krynica stream. The Hunting Garden was a pentagonal enclosure divided into four fenced-off sections. On its east side stood a shooting pavilion.

The second enclosure was the Wielka Kletna (or Kletnia), also called Augustowy Sad (Augustus' Orchard) situated between the Orłówka and Hwoźna Rivers, known from the times of King Bathory and both Saxons. Enlarged and renovated, it was an oval enclosure with five sections inside. On its north side where fences met and the trap ended, a large, wooden two-storey pavilion stood. Its ground floor was for servants and the upper floor contained a royal chamber lined with carpets and tapestries. Above it



Map of Hunting Gardens

was an open balcony from which the king, who declared 'not to have any passion for hunting', shot at bison and bears captured for him earlier.

The third paddock, Mała Kletnia by the Droga Browska road, is now the site of the Dziedzinka forester's lodge, guarded by a beautiful, low-branched ancient oak.

The enclosures were described in detail in the memoirs of the king's favourite, the poet Adam Naruszewicz, who accompanied Poniatowski on his Brest trip.

'Biała Wieś or Biała Wieża is a village surrounded by forests. The backwoods to which we were travelling were half a mile away from Biała Wieża. The site was encircled by a fence a good quarter of a mile long and wide. It was made of posts sunk into the ground at some distance from each other. Through the holes in them long and firm poles were passed and these were densely interlaced with young birch twigs or other dense bushes of a similar kind. Every fifty or so steps peasants with sticks stood by the fence to make sure the game did not force their way through the fence. The wide fence was narrowing like a net trap. At the narrowest point a shooting pavilion stood, really splendid and comfortable, two storeys high. In the middle stood two tables with arms – muskets and rifles and piles of bullets of various sorts. The same kind of arms hung or stood by the windows...'

In the times of King Poniatowski the way from Białowieża to Wielka Kletnia led first to the east along the Droga Browska, then at Mała Kletnia it turned to the north and it took one more kilometre to reach the destination. King Stasio, as he was affectionately called, took this route in 1784. I wonder why a monument to the monarch who loved the Białowieża Forest and its game so much has not been yet erected in Białowieża. Reportedly, the remains of the ghostly fence and pavilion were still there at the beginning of the 20th century.

As to the Saxon kings on the Polish throne, it is a historical fact that the first of them, Augustus II involved Poland in the war with

Sweden (the Great Northern War of 1700–1721). The moral decline and anarchy in the Republic are well known from history textbooks. However, it must be admitted that King Augustus II, owing to his passion for hunting, put some order to the forest administration. He cleared the forest of iron smelting sites and lye and tar works from the mid-17th century, to the benefit of animals and trees. The workers employed at their manufacture not only exploited the forest but also poached relentlessly. The king ordered to increase the number of forest wardens to 150.

The king liked to show off his strength and bravery. He was able to kill 40 wild boars weighing 100 kg and a few really huge boars at a single hunt. His castles at Hubertusburg and Moritzburg near Dresden were filled with hunting trophies. In November 1705 he narrowly escaped death when attacked by a bear in the Białowieża Forest.

The contemporary red deer is over 2 m long and stands 1.5 m at the shoulder. The biggest specimens weigh more than 200 kg. Females, called hinds, are smaller and lighter.

A deer's muzzle is wedge-shaped, the nostrils are large and coatless and the forehead is flat with a slight hollow in the middle. Its finely shaped ears are very active. Almost all cervids possess characteristic long and narrow preorbital glands in front of the eyes, which secrete an oily substance. The head of deer is set on a long and – especially in males – muscular neck set on equally muscular shoulders and chest. The body rests on rather long, slender and sinewy legs with black hooves.

A deer's coat is rough, consisting of hollow, breakable hair. Its length and colour depend on the season of the year and the animal's sex. Mature harts have an imposing dark mane on the neck. A hind's coat is more even in its colour and length. In summer the coat is short and thin, reddish yellow to reddish brown, grey on the head and paler on its sides, with a dark spot on both sides of the lower lip. A dark stripe runs from the neck

often along the whole back. A light patch on the rump around the tail is called a 'mirror'. In winter the coat thickens and turns to greyish brown. Some deer individuals are spotted, silvery grey, black, or very rarely – snow white. The latter are known as St Hubert's deer.

The most outstanding feature of deer is that antlers are shed before the end of each winter and produced anew. Their growth lasts 4.5 months. At first they are fleshy knobs covered with a soft skin, called 'velvet'. That skin finally dries and is rubbed off. The biggest antlers may weigh 12 or 13 kg. Some European museums of hunting exhibit highly developed antlers of 130 cm, with 40 or more branches. The average healthy deer in their

Deer courtship

prime, i.e. between the age of 10 and 14 years, have antlers of three tines on each beam and several top branches.

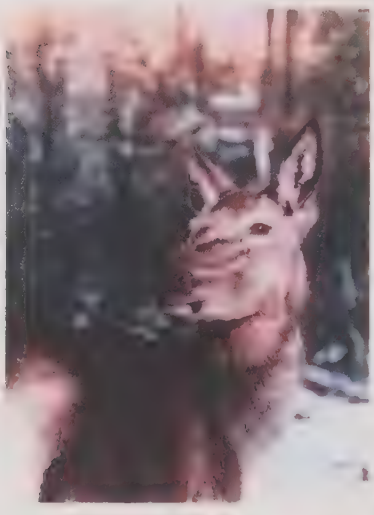
For most of the year deer live in sexually segregated herds: hinds with fawns separately from stags of various ages. The rutting season, starting in September, is one of the most spectacular events in the forest. Stag bands disperse and the dominant males collect harems of several females with young. The sounds of deer mating are heard from the depths of the Białowieża Forest for nearly six weeks: the initial passionate roars end with a series of deep groans. The leaders of family groups warn their rivals with sharp voices not to enter their territory and intruders are faced with a fight for possession of the harem. If you come closer, you can hear the loud banging and cracking of antlers. The rut gets most heated late in the evening and before dawn. However, in the strict reserve of Białowieża National Park, where game is not molested by man, the bucks are heard well after sunrise.

Usually one young is born to a hind in May or early June the following year. Before their white-spotted fawns get some strength, mothers live separately, busy with feeding and protecting their youngsters. After 7 to 10 days they join in a group again and roam the forest backwoods under the guidance of an old, experienced hind.

As typical ruminant mammals, deer feed on a variety of forest and meadow vegetation available in our climatic zone. They include grasses and sedges as well as the bark of trees. In spring and summer they graze on fresh grass, green buds, leaves and shoots. They eat seeds, berries and mushrooms. In winter they are satisfied with dry grass, twigs, bark and lichens on tree trunks. In areas where deer are numerous, they cause considerable damage to pine and oak nurseries and thickets as well as young ash and aspen saplings. They also destroy crops and potatoes on fields adjacent to the forest. Since natural enemies of deer have been killed off completely, their population must now be controlled by means of carefully planned hunting.

The European red deer in all probability came to the territory of the present Białowieża Forest 7,000 years ago, following the boreal forest. The species lived unthreatened till the greatest enemy of wild animals appeared in the forest: the human settler and hunter, craving for meat and hides and for macho entertainment.

At the beginning anybody could kill deer. So they did: the Neurs dug their traps, the Sudovians threw their spears, the Poles, Lithuanians, Ruthenians and foreigners – all hunted deer. Starting from the times of King Jagiełło, the privilege of hunting was reserved for kings and lords selected by them with the help of successive edicts and statutes. But neither the edicts nor the excessively developing administration, meant to protect big game, could save the deer from extinction. Royal hunting, wartime and poaching by new settlers, the lawlessness of local nobility and holders of the right of use resulted in something unbelievable: this undemanding and prolific species was completely wiped out in ca 1705. We hardly know how the true red deer of Białowieża really looked like. The natural scientists who described the local fauna a century later could only suspect the former existence of deer in the area, for deer antlers of various sizes were drawn in nets from local rivers or sometimes found in the forest. Also local place names, such as Jelenia Góra (Deer Mountain), Jelonka, etc. indicated their presence.



An interesting exchange took place in 1865: in return for four bison, Prince von Pless delivered to the Białowieża Forest 18 deer (5 stags and 13 hinds) from his breeding farm. 18 years later they numbered around 100, but as they were kept in an enclosure,

inbred and poorly nourished, they were very miserable and weak. Those that slipped out to freedom were much better off. On the tsar's order, in 1891 an experiment was started. Deer from Silesia, Bohemia, Germany and Austria, from Spała, Ravensburg and the Carpathian Mountains, and even crossbreeds with the American wapiti and the Asiatic maral (which died in a short time, however) were introduced in the forest – 500 deer altogether. In 1914 the deer population numbered almost 7,000.

From the point of view of fans of hunting trophies, the experiment was a success. In autumn 1903 two hunters shot a magnificent hart, a true 'royal' deer. Its right beam was 112.5 cm long and had 14 tines, the left one was 105.5 cm long with 12 tines. The antlers were 104 cm wide. The animal's skull with antlers was beautifully framed and hung in Białowieża palace. The hunters could only take its replicas made by a craftsman from Berlin.

The present *Cervus elaphus L.*, which inhabits the Polish side of the Białowieża Forest and amounts to some 1,500 individuals, can boast a truly cosmopolitan pedigree.

'She'

He arrived in the evening. The creaking wheels of his wagon jumped on the rutted road when he passed the lake shrouded in fog and the group of trees hiding the Białowieża mansion from view. The horses' hooves rumbled on oak logs as the wagon drove over the bridge across a narrow river with lazily flowing, reddish golden water. On its shore, a sleepy mill loomed in the distance. The road went to the Krysztapowe range, where dogs were barking and cows were mooing on their way home from pastures. Narrow patches of land stretched along the road behind the lines of trees on both its sides, walled off by the forest that surrounded Białowieża. The road ascended a mild slope of a hill. From its top, the current of the Narewka River was visible on the left, with weirs and the river's extensive backwaters, the river port with boats, drying nets and piles of oak logs waiting to be floated to the Narew and on to Gdańsk. On the right side, a small church stood, hiding a real bronze bell under its dome.

The wagon drawn by two horses, with a cover spread over hazel rods, clattered in front of the manor buildings. 'The haberdasher has come!', the news was flashed across the village. Children spilled out first from cottages and ran barefoot to the newcomer. Women put away pails and came onto the road. They pushed and jostled each other with elbows, trying to guess what the young and handsome haberdasher had brought from remote lands this time. Only men continued to sit on the thresholds knowing, that the commodities brought for them – barrels of gunpowder and lead shot – were lying at the bottom under the fabrics and female trinkets.

The visitor stayed at the inn. His almost bursting bundles were carried into the guest room. Then he discussed something till late at night sitting with the inn-keeper at the table set with dishes.

But the girls at the manor were greatly disappointed. The cheerful guy who always flirted with them came from the faraway Gdańsk with a woman! Her cheeks were coloured with rouge and the open bodice showed her white breasts. When she was walking through the village covering her nose with a handkerchief, her lavish dress rustling as she moved, women spat at her sight, for such a weirdo as 'she' had never been seen here before.

First the haberdasher paid a visit to the manor house. He returned looking satisfied and carrying a money bag full of nicely clinking coins. The forester's wife and the wives of shooters stationed in the Białowieża Forest had run out of needles, thimbles and strings for their bonnets a long time ago. Next he went to the beaters' and beekeepers' families. His chamber at the inn filled with the smell of honey and wax and thinly spun yarn was spread on the benches. Strong drink was poured out, with smoked pork fat as an appetizer. The Jewish innkeeper rubbed his hands in delight.

It got quieter in the evening. Yawning, 'she' put black and grey wool into separate sacks, smoothed the piling sheets of white-bleached linen and checked the plugs of scooped-out linden logs filled up with honey. The merchant counted the coins he earned through the day.

The manor at Krysztapowe fell asleep. Only at the Jew's inn a dim light was glimmering through a small gap in a window shutter – a sign that someone was sitting up all night there. When the moon hid behind the forest, a hunched figure moved like a shadow towards the house, knocked gently at the door and when it opened, a man with a sack on his back was visible for a moment against the light in the vestibule. A few minutes later he slipped away from the inn. This repeated many times before the sun rose again in the east.

In his chamber the haberdasher, red-eyed from lack of sleep and the smoke of a burning torch, tied two dozen mink, ermine and white hare pelts into thin bundles. But the real treasure was still lying on the table: a row of thirty fox pelts with their fluffy brushes hanging down the edge of the table, every one of them of identical orange-red colour, marked with a black cross on the back. Their unusually thick fur was

soft under the caressing fingers. It had to be admitted: the Białowieża suppliers knew their job well. Without any regret he could offer them his last sacks with powder, bullets and lead shot.

On the third day the wagon was crammed full, ready to depart. As soon as the horses were harnessed they could be off. The merchant would be glad to leave Białowieża quickly, but there was a problem: 'she' had come down with fever, unable to travel. Late at night she asked for water to drink. The haberdasher looked at her face and darted away. He tiptoed to the door, harnessed the horses and wrapped pieces of cloth around their hooves. When he had passed the last village buildings, he urged the horses to gallop, as if he was chased by the devil. For on the face of his beloved woman he saw ominous black blotches... He lost consciousness before he had reached the bridge on the Narew.

The morning at Białowieża appeared gloomy and dreadful. At noon the bronze church bell tolled out its warning. The plague conquered villages, manors and all forest farms. The first dead body buried in a common grave had the face still painted with rouge.

When there were hardly any people left at Krysztapowe, the sky was enveloped in smoke. The last living inhabitants set their own village on fire before fleeing. They only rescued the small bronze bell from the burning church. Centuries passed and the nameless grave of the plague's victims deep in the Białowieża forest was forgotten. Only the name of the nearby settlement of Krzyże (Crosses) echoes the disaster.

A porch in the Białowieża style

Despite the decrees and the whole administration hierarchy in charge of royal estates, the fight against poaching was difficult if not hopeless, especially during the turmoil of war. The inspections of royal forests found more than once that the population of local villages and manor farms was 'an implacable enemy and destroyer of all animals'. The documents list the names and places of residence of the subjects who 'sit there to harm the forest'. The inspectors stressed the danger of settling subjects close to the game paths, or the routes of big game to feeding places, as it 'deprived the animals of their peace of mind'.

It also happened that the game was destroyed by those appointed to guard it: foresters, beaters, hunting officials, shooters, swine-herds and beekeepers. Sometimes radical measures were undertaken in order to protect royal property. For instance, when it was found that the subjects in the village of Macelańce in the backwoods of the Rudnica Forest were doing 'a lot of harm to the forest and frightened animals', the forester of that area was ordered to 'move them away to another place'.

The elimination of poaching was hard because peasants used all kinds of traps and snares, which were invisible and efficient. But it was not only that. Small merchants such as haberdashers toured villages and in exchange for hunting trophies they gave the king's and noblemen's subjects firearms as well as haberdashery and other trinkets. The demand for furs in the outside world was unlimited. It paid to risk long journeys even in times of war and to bring valuable pelts to the Gdańsk markets. One of such traders when checked had ammunition, 20 untanned fat dormouse, 12 ermine, 1 polecat and 9 hare pelts confiscated.

It should be expected that the contemporary inhabitants of forest villages are ecologically conscious enough, owing to TV and local research institutions' educational efforts, not to engage in poaching, especially since they earn good money out of tourism in Białowieża National Park. Unfortunately, many of them are the same kind of 'implacable enemies and destroyers of animals' as

those centuries ago. No wonder fur game is so scarce. Only foxes somehow manage to survive, though to see a real cross fox, orange-red with a black cross on its back, is a great rarity.

According to old Białowieża tales, the royal hunting manor was on the left bank of the present Złota River. Peasants, millers, fishermen and manor workers lived around it.

The village of Białowieża was first built at the Krysztapowe range (today the districts of Wojciechówka and Centura). It was connected with the manor by means of a road lined with trees, the remains of which still grow along the Droga Browska. Its inhabitants, initially Orthodox Christians, in 1596 were subordinated to the Uniate Church. Old records indicate that a small Orthodox church stood by the present Droga Browska as early as the 17th century.

'There is no evil in this earth comparable with the plague. Everything is thrown into total confusion. Destruction reigns everywhere. For it strikes everyone. People of all estates and wealth suffer the sorrow of death. Some are gripped by illness, some by the fear of it. All the time they face death or the threat of it. Those who buried others yesterday, are buried today. People are even scared of the air they breathe. They fear the dead, the living and themselves. All persist in one pitiless effort: to avoid the sick. A family table and a marital bed seem to be traps hiding the terrible poison. Many of the still healthy leave their relatives and friends in misfortune, thus setting an example for others, who will do the same when their turn comes and leave their loved ones to their own fate. People curse one another; it seems that love has died and hope has been buried'. This is how pestilence was described in the Middle Ages, and the author of these words could come from anywhere – distant Florence, Avignon or Lisbon, Lublin or Cracow.

In ancient times the plague ravaged Asia. It also occurred in the Mediterranean, but until the 8th century it never spread further to the north than the delta of the Rhone River in southern

France and Dalmatia on the Balkan Peninsula. It was not until the pandemic in China in 1333 that the disease spread to central Europe through the Caspian Sea and it was transmitted by ships to the whole continent. In 1348 it reached England and France and a year later Germany, Austria, Scandinavia and Poland. Before 1541 the pestilence recurred six times to decimate the population of towns and villages.

The disease was short and it almost always ended in death. In the most severe cases patients lost consciousness within a few hours after getting infected and they died in three days. The physical signs included vomiting, reddened eye conjunctiva and quickly darkening haemorrhages in the skin and mucous membranes. That is why it was called the Black Death, or *mors nigra*.

Helplessly, people tried to save themselves in any way they could: they did penance for their sins, incensed their houses, wore amulets and holy relics, made pilgrimages to miraculous pictures and avoided pronouncing the name of the disease by just saying 'she' (the Polish word for 'plague' is feminine). Rich people bought from apothecaries the famous theriac, a cure-all of 60 components. When going out, they put something very scenty into the ears and nose. Small boxes of herbs and sponges soaked with perfumes were worn and handkerchiefs were sprinkled with aromatic oils. It was believed that a little mercury put in a tube made of a bird feather or in a nutshell and hung on the chest would help. Snake or lizard fat was applied to the heart area and the signs of infection under the skin were treated with frogs.

The infected people were shut in their houses or in special lazarettos outside villages, arranged even in sheds for yarn drying. The deceased and their belongings were 'buried at once away from human settlements and deep in the ground'. Instead of having a funeral procession and service, bells tolling and their own grave, they were lowered into a common pit by means of a long pole with a hook. All their belongings were burnt far from the house. Villages and towns that had no walls were surrounded with

ditches and trenches. If that did not help, all buildings were set on fire and the villagers moved to another place.

In 1709 the Black Death was again transmitted by ship to Gdańsk. To avoid the loss of prosperous trade the city councillors concealed this fact. Ignoring the truth, they assured the city of Lübeck, alarmed by gossip, that only sporadic cases of the disease occurred on the Mottlau, or Motława River. But the plague soon spread to the whole country. A year later it reached as far as Białowieża. Country people were not cautious enough of merchants travelling from the plague-ridden lands. At the very most they aired the goods in sheds outside villages or towns.

Those were the times when a village cottage was inhabited by both people and their livestock. Dirt, lice, fleas and bedbugs as well as rats, which transmitted the disease, were rampant, so it spread instantly. Most of the inhabitants of forest villages and

A hunting fox

settlements died within a short time. In unit 451 by the road to the bison reserve, a still visible long ridge of earth covers the common grave of the plague victims.

The royal commission in 1712 saw the Białowieża forester's seat all gone up in smoke. The few people who survived the epidemic burnt the village down and built new settlements at Zastawa and Stoczek, today parts of Białowieża. Legend has it that the bell in the chapel of the Białowieża cemetery is the same bell which tolled the alarm in 1710.

The fox is the most common predator living in Poland. Its long, slim body ends with a magnificent brush. On its upper side a few inches from the base foxes have a scent gland. The legs are relatively short, the head is finely shaped, with triangular ears, black on the outside and white-yellow inside. The sharp-pointed muzzle with a black nose and stiff whiskers has a slightly mocking expression. The eyes are a bit slanting with vertical oval pupils. The biggest foxes are over 1.5 m long including the tail, stand 0.5 m at the shoulder and weigh nearly 10 kg, but on average they weigh 5 to 7 kg.

Adult foxes moult once a year and the change of fur lasts long – from February till November. The mature, thick coat consists of soft, wavy underfur and long guard hair. Among the variety of colours, three groups are distinguished: the red fox, the cross fox and the silver fox. Red foxes are most common, their colour ranging from sandy yellow to bright red. Their back and rump are often covered by a sort of grey coating, while the underparts are greyish white and ears and front of the legs black. The tip of the tail is snow-white or black. The cross fox is a melanic form of the red one. On its lighter and darker red fur a black cross is marked along the back and shoulder blades. The silver fox is very rare. It practically does not occur in Poland. Despite its name it is almost black with a tint of brown, only the back is silvery and the tip of the tail is white.

Foxes live off hunting. As sharp eyes help little among the tangle of grass and other plants, the predator uses mainly its ears. They would not miss a rustle or a mouse squeak. By moving its head and ears the fox can so precisely localize its prey hidden in the undergrowth or under a layer of snow that it only needs one pounce to hit it with its paw.

Foxes feed on the prey that is in greatest abundance, i. e. mainly rodents, hares and wild rabbits, forest and domestic gallinacaeous birds, as well as water birds and waders, amphibians, reptiles and invertebrates. They would not miss a chance to finish off what is left by bigger predators and they simply love carrion. This diet is supplied with fruit and fresh leaves of grass.

Where foxes are persecuted by man, they lead mostly a nocturnal life, but in peaceful areas such as Białowieża National Park they can be spotted in the middle of the day ferreting about in the meadows or running around the forest. They are most likely to be seen at the end of January and the beginning of February, the mating season of foxes. The mates are so preoccupied with each other that they become less attentive to their surroundings. Some researchers claim that foxes can hold to the same partners for a few seasons.

The cubs are born in early April, usually 4 to 6 of them, in a burrow dug in a sandy hill near some grassy meadow where mice and field voles are plentiful. They have a dark-grey coat and are born blind, toothless and with blocked ears. After a fortnight or so their ear canals and dark eyes open. A few days later the pups begin to crawl inside the den. When they are six weeks old, they first show their curious muzzles in the hole opening. If you have never seen the tenderness and pride radiating from the mother's face when she squeals gently to encourage her young, you cannot imagine how deep the maternal love of foxes can be.

Dog-foxes are said to share the tasks of breeding the cubs by supplying food to the den. They do it as a rule when a vixen dies. Some fox parents have been reported to adopt the young left without both parents.

Young foxes at play

Baby foxes are fed with their mother's milk for a month. From the twentieth day of their life they start to eat meat swallowed and vomited up by the parents. Cubs with well-formed teeth eagerly bite off and fight for big pieces of animal flesh brought by the parents from their long escapades. Unfortunately, they are often aimed at local hen houses. The family breaks up in autumn, when the cubs weigh nearly 5 kg and walk far away from the family den, attempting to start an independent life.

The ermine is mentioned in publications as a very rare species in the Białowieża Forest. It was killed off throughout centuries for profit and out of mere vanity. The reddish brown voracious animal to its own undoing turns beautiful white for winter. Dozens of its precious snow-white 30-centimetre skins sewn together into a stole with their fluffy black-tipped tails hanging down loosely, are seen in thousands of portraits of ladies and gentlemen from all over Europe: rulers, aristocrats, scholars and clergymen.

The fate of the sable and the European mink, a close relative of the polecat, was even worse. God only knows when the former was killed off. The latter was a predatory animal with fine dark-brown fur, which lived peacefully in swamps, near streams and small rivers. Mink was an excellent swimmer and it dived for food such as crayfish, fish, frogs, molluscs and snails. It was last seen in Poland in 1926 and in the Białowieża Forest in the early 20th century. It was replaced by a fugitive from fur farms, the North American mink.

The lot of two hare species: the blue, or varying hare and the common hare differed greatly. The first had bad luck. Like the ermine, in winter it changed its fur colour to white with black ears. It was sometimes encountered in the Białowieża Forest in the period between the two world wars. At present two stuffed specimens stand in the showcases at the local Natural History

Museum. One of them was killed on the Narew River in 1932. During the past four decades a few reports have been made of meeting a blue hare in the forest. But it does not give grounds to add the species to the list of mammals existing now in the Białowieża Forest. Although such reports have been quoted by scientific publications, they have never been documented by a photograph or a piece of fur. Besides, there is a great possibility of mistaking some other animal, e.g. a white village rabbit for a hare. Strange animals met in the forest included an exotic tortoise, a boa constrictor and even a crocodile, which escaped from their breeders. Taking into consideration the great fertility of hares, it is impossible for a population of a few individuals not to die out completely during half a century, or multiply unnoticeably to any hunter and forester walking in the forest.

The common, or European hare has modest greyish brown fur, reddish on the back and white on the underparts, so it has survived all the turmoils. Despite its general weakness and a host of natural enemies, such as mammals and birds of prey, dogs, cats and men, it still inhabits the meadows and woodlands of the Białowieża Forest. Not too numerous, it has a chance to remain on the list of the local fauna for good, owing it to its fertility, alertness, cleverness and fast-running legs.

Of the remaining mammal species killed for their fur, two species of marten: stone marten and pine marten have survived, as well as weasels, polecats, squirrels, fat dormice, some otters and badgers. Apart from the North American mink, there are other newcomers. Around 1955 the raccoon dog appeared from the Soviet Union, where it was bred and acclimatized between 1928–1957. The Far-Eastern species was very unwelcome because of its predatory nature and the transmitting of diseases. Earlier in 1948 the North American muskrat migrated to the forest from Czechoslovakia, where it was introduced in 1905 to be bred for fur. Somehow it managed to slip out to freedom and set-

tle along the scrubby banks of rivers and lakes, in drainage ditches and emptied peat bogs. It took the animal over forty years to reach the Białowieża Forest.

The Beekeeper

Lawrysz

Old Mikołaj spent the whole winter lying in a stove corner. His dry cough and wheezy breathing disturbed the other's sleep, so every morning his daughter-in-law gave him some hot linden tea sweetened with honey. She did it angrily, clattering her pots, without saying a word. The young farmer was missing from the cottage. Two years back, around St Martin's Day they came to take him away along with other men from the forest villages to fight for the Saxon king. The farm went into decline, though it was exempt from all duties and payments. The farmer's wife alone could not manage to do all the work. Her eldest son was still very small, to say nothing of his younger brothers. The father-in-law was still strong despite his advanced age. He ploughed, sowed and gathered crops, waiting impatiently for his son's return. Their narrow patches of field did not yield much – just enough to ensure them their daily bread and soup cooked from a hare caught in a loop. Their tiny patch of riverside meadow barely sufficed to graze a cow and a small flock of dark-back geese. The real wealth of the Ławrysz family, forty pines and ten oaks with bee nests, which earned them their livelihood and respect, stood wasting in the Białowieża Forest ranges. Each tree was marked with a sign of two rings cut in the trunk by their greatgrandfathers-beekeepers.

Last summer the old man inspected his trees. Bear traps and other devices installed on pine trees in the backwoods were still working, but some boards badly needed replacement. Martens had already plundered four trunks. He dreaded to think of what else they could destroy if the rotten boards subsided to their sharp claws and teeth. Last autumn his neighbour cleaned the bee nests and protected them from the cold with

bundles of dry heather in exchange for his help in honey straining. But there was no time left to mend the breaking hole openings.

Before winter came, old Mikołaj set some clever traps under his trees. Later he found some small animals with valuable furs caught in them. But he knew he was not able to kill all the martens. To make thing worse, when he was being chased by the royal wardens, the icy wind chilled him and his health deteriorated. He was in no mood to embark on long walks to the forest any more.

But the spring sun, linden tea with honey and the buzz of bees in the pollen-rich willow catkins set him on his feet. The pain in his lungs stopped and he regained his strength. Day by day he saw to the farm with growing energy. He ploughed and sowed the fields, fixed his daughter-in-law's quern and a linden container broken by a cow's hoof. In the evenings he wove bast moccasins for both of them. Finally,

A peasant cottage

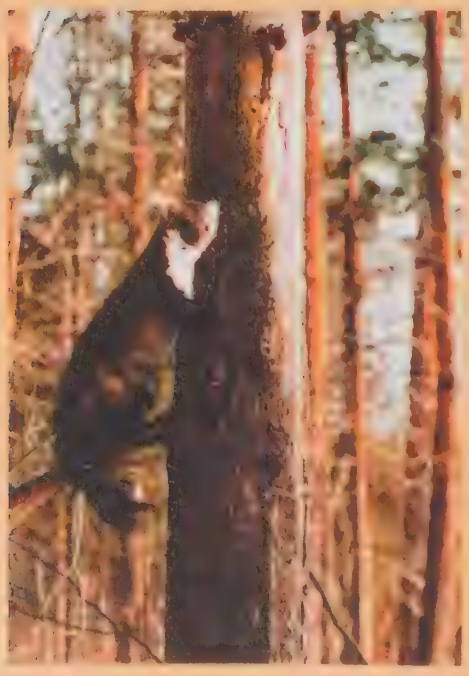
with the help of his eldest grandson he rolled a fine oak log down from the wood shed to the front of the cottage and using wooden wedges he hammered it with a stick until he cut a pile of perfectly even boards for the repair of bee nest closing boards. Time passed and his son did not come home. It would be a great sin to squander the bee nests!

A cuckoo called when old Ławrysz lifted a juniper basket wetted in water, filled with bast ropes and other equipment and put it on his back. His daughter-in-law put a chunk of bread and a well-covered mug of sour milk into his bag.

For the start he chose the easiest nest to climb, a fine oak a height of only four men. He put a handful of rotten wood and straw on the grassless ground below, struck a flint, blew at it and when it produced a little flame, he put against it a dry bracket fungus secured on a forked branch. When it started to smoke, he fastened it to his wet basket. He took off his moccasins, approached the tree trunk, crossed himself and spat into his hands. He fastened a rope round the tree, made a loop on it and put one foot in the loop. Then he fastened the other end of the rope above it and made another loop. The bark was rough and cracked, thus giving him solid support. He withdrew one foot and fastened the rope still higher. This way, supporting himself with both his legs in turn, he slowly climbed up the tree. At last his eyes saw a bee nest. A guard of forest bees was buzzing round the small opening in the trunk. He hoisted a small bench of linden wood fixed to the ropes, tied the rope and seated himself comfortably. The air was soon filled with aromatic smoke, down went the old covering board and together with it the dirt that had collected at the bottom of the nest: dead bees and mice killed with stings, remnants of old honeycombs. Finally, a new board was fixed on the opening. The old man descended quickly and he felt relief when he unlooped his foot for the last time. He went a few steps away and sat down on a carpet of blooming herbs. Looking at the light-coloured rectangle of wood above and bees swarming at the entrance to the nest, he took his bread out of the bag. He ate, drank and put on his shoes. Then he tied the basket to his back again and left the sunny oak wood for the forest behind the Jelanka River.

In the Sosnowa backwoods a marten made its nest in a hole left after the bee nest was pillaged last winter. A beam of light shining through a crack in the board illuminated the bottom, where a mother marten was resting with her four young on a bed of honeycomb scraps. It was a good season for this forest predator: all nests on the ground and in the bushes were full of eggs, in the grass throngs of tiny creatures squeaked and croaked and tree canopies swarmed with young squirrels and fat dormice. How nice it is to come back at daybreak to a safe home and kids after a night of hunting, her teats swollen with milk.

The marten woke up alerted and raised her head. Something banged on the tree trunk. Some big creature was climbing up to the hole, scratching and scraping the bark. It was coming near the opening. The brown animal with a yellow patch on its breast flattened itself on the hole bottom. It smelled some smoke and human scent. It heard puffing and blowing and some banging just outside the wooden barrier. Suddenly the wall that protected the inside of the hole was gone. A bearded face appeared in the gap flooded with light, followed by a hand reaching into the nest. The marten sprung up towards it and hit the human being right in the face...



Surprised by this attack, the old man moved back impetuously, lost his balance on the narrow bench and fell down, pulled by the heavy basket on his back. He hit the ground with a terrible force and lost consciousness. He did not see the smoking firebrand falling on the thick layer of dry needles lining the floor of the ancient forest.

A gust of wind blew the flames high.

A stone marten

It is an agelong tradition of Slavs to make use of bee products. *Miedos*, or mead, an alcoholic beverage common among the Slavs in the times of Attila, was mentioned by some mid-5th-century sources. It is the oldest word recorded in writing which still functions in the Polish language, apart from *strawa*, meaning food or meal. The abundance of wild honeybees in Polish forests was confirmed by Roman historians, e.g. Pliny, who wrote that the legions could not proceed forward to the north of Pannonia and the Dniester River, for 'a great multitude of stinging bees in the forests of Sarmatia'. I incline to the view that the bare-legged and bare-armed Roman soldiers in short armours were stung not by peaceful honeybees, but mainly by aggressive wasps and hornets, which in some years occurred in large numbers.

Bees were bred in bee nests. Holes were made by man in tree trunks at a height of a few or a dozen or so metres on the south-eastern side of living pine trees, or more rarely in elms, spruces, firs and oaks. Trees were chosen which had trunks of about one metre in diameter at a man's height, i. e. at least a hundred years' old, so that they were not broken by wind after a hole was scooped out in them. Sometimes such primitive beehives had two openings and there were also some trees with several man-made holes, called 'queen-nests'.

A hole, first cut with an axe and then scooped out with a sort of iron chisel, was 1 to 1.5 m high, 30–40 cm deep and it narrowed at the entrance. Several bars were fixed inside at the top to enable bees to build honeycombs. In order to lure a swarm of wild honeybees to a ready-made nest, it

was 'painted' by spraying with an aromatic mixture of honey and herbal brew, for instance from melissa. Then the opening was boarded up with a long piece of board. The insects entered the nest through a small opening in the trunk called an 'eye'.

Apart from people and martens, also bears were very fond of honey. As they could climb up bee nests without any effort, a number of protective devices were invented. One of them, called 'self-beating', was a heavy block of wood or a big stone hung on a strong rope in front of the entrance to a bee nest. To reach for honey a bear had to push away the block, which came back like a pendulum, hitting the animal on the head. The stronger it was pushed, the stronger the blow was. Also sharp hooks were nailed to trees, which made it more difficult for a bear to climb, and collar-like platforms of thick boards studded with pegs on the bottom side were fixed to their trunks.

In spring beekeepers cleaned bee nests, removing the remains of wax and dead bees. At the end of summer they removed some of the honey combs, cutting them from the nests. Then the combs were put on sieves to let the honey flow down and pass through. Strained honey was used for sweetening dishes, while mixed with water and fermented into mead it was a favourite drink of our ancestors. Beeswax became more valuable as a raw material for candles after the introduction of Christianity. At the mouth of the Western Dvina River as late as the mid-12th century the Latvian people regarded beeswax as useless waste and gave it free to merchants from Lübeck. From the mid-16th century, however, it was a major commodity exported from eastern Europe, which – like furs – could substitute money. It was also very common to pay a levy with honey.

The settlers entitled to use royal forests could make use of bee nests in trees, but the act of 1538 issued by Queen Bona ordered to register them all and collect tax from every one of them: either a bowl of honey or 30 groszy. The owners of the right to beekeeping in the Białowieża Forest either did the job themselves or

employed beekeepers who received a half of yields for their work. Beekeepers belonged to privileged subjects of the king. According to the Wołoki Act of 1557, if they were called in to war, they were exempt from any payments for that year. The Forestry Act of

A traditional apiary in the Białowieża Forest

1567 listed the obligations of beekeepers: 'They must take good care to add a certain number of new trees with nests every year and settling honeybees in them, so that HM the King can obtain more honey'.

The owner of bee nests had his own sign, of his own or his ancestors' design, which he cut in tree trunks. The same sign was put on his documents, as a protection against claims made by numerous neighbours, settled in special courts. Beekeepers' trees fell in three categories: with inhabited bee nests, with empty bee nests and meant to have bee nests in the future, thus marked with the beekeepers' sign and not to be felled.

Besides yielding profits to the royal treasury and private pockets, beekeeping did harm to the forest. The register of bee-nest trees of 1599 in the estate of Orzeszkowo alone listed 21 owners of 950 pines and 94 oaks with bee nests, of these only 99 inhabited by bees. A document of 1764 reads, 'there are very few beekeepers who do not possess hundreds of bee-nest trees in the forest and they select and work more and more of them for this purpose every year. A tree with a bee nest inside is otherwise completely useless'.

Apart from private beekeepers, also royal ones worked in the Forest. In 1712 both kinds of wild honeybee keepers worked side by side in 15 registered beekeeping areas. In 1796, 632 inhabited bee nests and 6,601 empty ones were registered in the 13 Białowieża Forest districts.

Beekeeping not only destroyed the finest trees by hollowing them out, but it was also a threat to the whole forest. 'Frequent fires in the forest are caused by beekeepers' carelessness, when they go from tree to tree holding burning firebrands, thus recklessly, though not deliberately, starting fires, especially in dry weather, and then no one knows whom to blame'. In a petition of 1764 its author named Harnak postulated that the old custom of storing climbing devices by royal officials should be restored. 'When wardens know where each beekeeper works in the forest,

the threat of punishment will teach them carefulness and save the forest from a great destruction which a fire always causes', he argued.

The twilight of forest beekeeping came in the mid-19th century, when it was replaced by modern apiculture. At that time inhabited bee nests were found almost exclusively in the Augustów, Kurpie and Białowieża Forests. Their limitation was the result of official protection of already drastically thinned out forests from further destruction of trees and regular rises of fees paid for the right to keep bee nests. For example, in 1837 the government of the Kingdom of Poland ordered the removal of all bee colonies from government-owned forests. As the regulation was strongly objected by beekeepers, who invoked age-old privileges, it was somewhat liberalized. The making of new holes was prohibited under penalty of 40 złotys, trees with empty nests were cut off and sold, while those with bees were allowed to be kept and worked. At the same time, beekeepers' meadows were registered and a special tax was put on them. In 1827–1852 the tax was raised from 18 to 45 kopecks per trunk, or the equivalent of about 1.5 kg honey.

At that time beekeepers in the Białowieża Forest depended on leaseholders, who received the right to use bee nests for six years on government auctions at Grodno. The leaseholders were paid by beekeepers an annual rent of 1 ruble from a good bee colony, while they themselves paid 75 kopeck for an old, working bee nest and 30 kopeck for a newly established one.

The forest inhabitants used honey sparingly as a medication and a delicacy for children. Most of the bee products were sold to Jews. In 1860–1880 a gallon of honey cost 2 rubles or more. The most desirable 'July honey' was sometimes priced at 15 rubles. The price of pure beeswax was 75 kopeck per pound.

After the Białowieża Forest became the property of the Romanovs in 1888, all beekeepers were removed from the forest and their tree trunks were passed to the care of the forest

administration. The overexploited bee colonies, without owners and proper tending, were destroyed in a very short time.

Today there are neither wild honeybees nor forest bee nests. The last remaining ancient trees with traces of nest holes made by our forefathers are a tourist attraction in the strict reserve of Białowieża National Park. The best ever July honey comes from the neighbouring apiaries tended by the Białowieża adherents to the beekeeping tradition.

An old pine trunk

Centuries ago two species of trees were chosen for wild honeybee keeping: the commonly occurring mature pines and oaks.

Pines appeared in the territory of the present Białowieża Forest along with birches some 12,000 years ago, when the postglacial tundra was receding. In historical times they belonged to the most common trees, still they made an impression with their unusually huge size, pinkish ochre bark and longevity. Like today, natural and homogeneous stands of pine trees grew in marshy coniferous and dry moss-grown forests. Along with spruces and birches they formed pine coniferous bilberry forests. Fire has always been a decisive factor influencing forest life. Pine, with its roots deep in the ground, is more resistant to fire burning in the undergrowth than its rival spruce, which has a very shallow root system. Pine seedlings need an open, sunny space for their growth. If a lot of seeds are planted just after a fire, young pines soon replace the burnt spruces.

In another type of forest – fresh mixed coniferous, pines grow in the more diversified company of spruces, oaks, birches, aspens, lindens and hornbeams. Here they reach their top heights as a species, amounting to 40–42 m, a thickness of 1.6 m at breast height (1.5 m above ground), and they can live more than 350 years. Even when they die naturally, they go on standing among living trees for many more years. In the course of time they lose their bark and picturesque knots and holes chiselled out by woodpeckers in the yellowish wood are uncovered, forming a mosaic of patterns on the dead trunk. On their huge and twisted bare branches towering above the forest, ravens and birds of prey perch.

The resinous wood of pines felled in the Białowieża Forest has always been famous for its excellent quality and durability. Therefore it was commonly used for village construction. Growing in great density, the trees had thin and firm annual rings, which made them valuable as material for making stringed instruments. Their tall and slim trunks were excellent for ship masts and were used for that purpose by many of the greatest fleets.

Today only 71 pines of such imposing height and age have been found in the Polish part of the Białowieża Forest. Some of them are nearly 4 m in circumference, 40 m high, and at least 350 years old.

An old oak trunk

The majestic English oak is the mightiest and noblest and of all trees in the Forest. It appeared in this area some 9,000 years ago, at a time when pine and birch forest was giving way to warm-temperature-loving mixed forest. It still grows in large quantities in all deciduous and mixed forests as well as mixed coniferous forests, but it looks most beautiful in oak groves upon morainic hills. They form small, usually not larger than half-hectare, sunny and warm woods resembling a spacious oak park planted by a gardener. To give its landscape some variety, now and then a linden, aspen or hornbeam and bushes such as hazel and evonymus grow. At the bottom, its lush green undergrowth consists of an infinite number of species, with such rarities as dragonhead *Dracocephalum Ruyschiana* and carline *Carlina acausis*.

English oak is the thickest and the longest living of all trees in the Forest. In height it is only surpassed by the oldest spruces and equalled by some lindens and pines. It flourishes in wet-ground forests, where it attains a height of over 43 m, 2.5 in diameter and the age of 500 years.

Because of its size and straight trunk without low branches, from time immemorial oak was the highest valued timber for building. In spite of that, 200 years ago countless age-old oaks still grew in the Białowieża Forest. People selected only those specimens which they were able to fell with simple tools and transport by horse-drawn wagons. Quite naturally they included relatively young trees, not too thick, growing close to roads and open areas.

The extermination of royal oaks took place in the twentieth century — the age of industrialization, motor-driven saws, heavy transport vehicles and modern sawmills. Between the years 1915 and 1939, the German occupiers, the English Century Company and the reborn Republic of Poland removed altogether 5 million cubic metres of oak logs. That means in 24 years 200,000 fine, healthy trees were killed, most of which could still live today. From the end of the Second World War till the mid-1990s huge platforms loaded with oak logs continued to leave the Forest.

Wood was needed for building, veneer, parquet floors, boards, furniture and coffins for wealthy citizens. Finally, man defeated nature and oak resources were used up. Today the vast area of timber forest in the Polish part of the Białowieża Forest has around 200 remaining oaks, now monuments of nature. They include a small number of 600-year-old specimens measuring eight metres in trunk circumference. These ancient oaks have almost no direct successors, i.e. 200 or 300-year-old trees. Instead, there are a great many young oaks planted by man. We only need to wait half a millennium and the forest will return back to normal.

An old linden trunk

The queen of Białowieża wet-ground forests, small-leaf linden, though yielding a more noble nectar, was unfit for settling wild honeybees in it. It rots inside early, still in its prime age, forming large hollows. Very old and hollowed lindens, those 40-metre giants with trunks overgrown with bright green moss and surrounded by a thicket of offshoots, were left alone by people. But the younger generation of lindens were cut down without mercy. The local population made a wide range of everyday utensils from linden wood from time immemorial till the first decades of the 20th century. Bast fibres obtained from living tree stems were used for weaving baskets, nets, doormats and moccasins. Beekeepers enjoyed the privilege of taking as much bast as they could carry out of the forest, as they needed it to make ropes for their climbing devices.

In the 17th century the payment to the treasury for the stripping of trees was taken in kind: one hen from each cottage. The destruction of young lindens was growing so rapidly that in 1700

the forest administration warned tar-makers not to strip off bark from living trees, for they withered. In 1781 the payment for one handbarrow of bast was 15 groszy and for a full wagon 4 złotys.

Two species of marten have survived all turmoils of war, fires, forest clearings and persecution by hunters and poachers: the pine marten and the stone, or beech marten. The stone marten, characterized by a divided, snow-white throat bib and a light pink nose, has come to like the environment shaped by man and it now often inhabits attics of foresters' lodges and isolated farm buildings. Its presence is marked with blood in poorly protected hen houses or rabbit cages.

A bigger and beautiful pine marten is up to 70 cm long together with the tail and it weighs 1.2–1.8 kg. Its fur is brown on the back with a lighter underfur. The head, short legs and the bushy tail are a little darker in colour. Pine marten has a round-shaped yellowish throat patch and its ears are bigger than a stone marten's. It has a triangular head, a big black nose and wide feet covered with dense fur, which protects the animal from cold.

The pine marten avoids close contact with humans. It lives a solitary life in old mixed forests and wild backwoods. It hunts mostly at night, while during the day it lies in the sun or sleeps in bird or squirrel nests or in holes in old trees, where it builds its own nest. In April or May three to six blind and clumsy young are born in it. Five weeks later they open their eyes and they are milk-fed by their mother for three months. Martens can reproduce in their second year of life and they live ten to twelve years.

The pine marten hunts small rodents, squirrels, hares and birds. It is awfully fond of bird eggs, but it also eats beetles and snails. It likes fruit very much, e. g. rowan berries, wild cherries and apples, as well as seeds and honey from wild bee nests. In winter it loots badly protected beehives, eats carrion of big animals and even digs out cranberries from under the snow. When it has no food, the animal can go for many days without it.

The Emperors of the Forest

For many weeks there was no peace in the backwoods of the Białowieża Forest. With the noise of dozens of axes striking wood regardless of weather, a legion of carpenters were building enclosures at Wielka Kletnia on the Jelanka River. The royal game park which remembered the times of King Bathory was more and more often called Augustus' Orchard, because it was here that the Saxon king preferred to give vent to his passion for hunting when he came to Białowieża. The animal he was going to hunt in the autumn was supposed to outshine everything Europe had seen before. So the fences were raised and the backwoods were divided into sections. Gates, pavilions and a grand stand opposite the narrow, walled corridor leading inside the game enclosure were constructed.

In mid-September the hunting site was ready. The last gate was hanged on iron pegs, roofs were fixed and every chip of wood was swept up. They could lay carpets, cover the raw wood of walls and scaffoldings with damask fabric bearing coats of arms of the Wettins and carry velvet-upholstered and gold-ornamented chairs and other valuable furniture high up the stand. It was time to fill up Augustus' Orchard.

Soon Germans arrived with excellent dogs of all breeds. As the Białowieża hunters had already tracked bison hiding in dense lairs, they started their job at once. A thousand people called in from the nearby royal estates drove the animals towards the enclosure and the nets hanged between trees. They took great care not to wound them, so that they stayed mighty and dignified. Augustus, an outstanding shooter, and his royal consort demanded an adversary matching their skills.

The morning of 27 September 1752 was sunny and windless. The first ground frosts had already dimmed the colours of trees, grass and

herbs. The Forest stood motionless and silent. Shrouded in blue mist, it mused about the past times, when the September air vibrated with the roars of deer and bangs of antlers of fighting bucks before timid hinds surrendered to the most handsome and powerful of them.

The dawn revealed a strange view: the emperors of the forest crowded in the small pens of Augustus' Orchard and anxiously looking for a way out. There were among them 15-hundred-kilogramme, dark-brown, maned bulls with reddened eyes and wide-spreading horns, cows of a subtler posture and some calves fearfully clinging to their mothers' sides. Elks were waiting in the neighbouring pens...

The Highest Master of the Hunt of HRH, Graf von Wolfersdorff ordered to signal the beginning of the hunt with the sound of trumpets. A long line of ornamented equipages assisted by mounted officers set out from the royal residence, followed by a throng of pages, royal huntsmen and shooters, German game wardens and lesser courtiers. How could the Białowieża Forest hold such a great lot? In a sumptuous carriage leading the retinue sat the ruler of Poland, Augustus III Saxon, with his wife and two sons: the king's favourite 'Charles' and Xavier, most liked by the queen. Next drove the almighty minister Graf Heinrich von Brühl, holding a conversation with Marshal von Biberstein. The carriages behind them contained Court Marshall von Schoenberg, Grand Marshal of the Crown Klemens Branicki, Crown Cupbearer Prince Wielopolski and Their Lordships Poniatowski, Wilczewski, Węgierski, Starzewski and Sapieha, with their ladies.

Breakfast was waiting for them in pavilions decorated with carpets and silk. Delicacies conjured up by French cooks and golden fruit from southern lands piled on precious plates of Meissen porcelain; the most expensive champagne bubbled in goblets from Murano.

But the pavilion where the table was set for the royal couple was hardly filled with rejoicing. Her Majesty Maria Josepha sat with gloom on her plain face, cutting with a knife a capon leg resting amid the flowery pattern of her plate, so passionately as if it were roast minister Brühl, and carried it to her mouth with obvious disgust. Then, chew-

ing it silently, she indulged in angry thoughts about the wretched nouveau riche's plotting against the queen again, while the slow-minded and inert Augustus was not able to take a step without him...

The king drank his wine and stood up, signalling it was time to start the hunt. The distinguished family was seated on the high stand, surrounded by the select few. A few hunters skilled in quick loading and serving firearms positioned themselves by the side of the royals. Count Brühl was the last person to climb the platform and with dumb insolence he took his seat by the monarch. He whispered something to Augustus' ear, making him very happy. To that, the queen took out a French novel in a luxurious cover, opened it and with ostentatious contempt got her prominent nose in the book.

A fanfare sounded and the first bison was driven into the narrow corridor opposite the royal couple. A shot, smoke, the smell of powder, trumpets, a round of applause by the audience, delighted with the bloody show, a shot again, another fanfare! The first bull was killed by Augustus. The second one died from the accurate shot of Her Majesty the Queen, who looked indifferently at her victim going into convulsions, and directed her bulging eyes back to the pages of her novel. The Queen of Poland interrupted her reading twenty times.

King of Poland Augustus III Saxon (1696–1763) was an obtuse, lazy coward, first influenced by his energetic, malicious and bigoted wife, ugly as sin, Maria Josepha, and later completely dependent on Count Brühl. He loved fine arts, women, fancy dress balls, eating to excess and killing animals. He cared little about the ruling of Poland and politics. Like his father Augustus II, he devoted most of his time to hunting. In 1738 he instituted the Order of St Hubert, awarded to the noblest-born for their hunting achievements. The first knight of the order was naturally Augustus III himself. His self-award was celebrated with six weeks of hunting. As Warsaw theatre, opera and carnival did not compare with those in Dresden, in Poland the monarch preferred to shoot at animals. Big, fat and shiftless, he was in no predisposition to ride on horseback through the forest. He would rather sit comfortably in a soft armchair under the roof of a pavilion and fire at the game that was driven in below.

'King Augustus III Saxon' by L. de Silverte

In the Marymont Forest north of Warsaw, where a game enclosure was made, he killed wolves specially brought for that purpose. South of the city he had Arkadia, the former estate of Marshal Lubomirski, where he shot at rabbits bred in the so-called Królikarnia (Rabbit House).

His zealous servant, Lithuanian standard-keeper Prince Hieronim Florian Radziwiłł, trans-

ported elks, wild boars and bears for him from Lithuanian forests to the Warsaw area. Deer were already totally exterminated. When they temporarily lacked game, carcass was thrown on the palace lawns to attract stray dogs. The psychopathic king elected by Poles to the Piast and Jagiellon throne shot at them from the open windows of his chambers.

In July 1756 he arranged a great, night 'shooting for an order' in the vicinity of Dresden. According to chroniclers, 'geese, monkeys and hares dressed in costumes of Angelinas, Harlequins, Crispins and Caramuzzos' were the targets of shooting.

A description of one of Augustus III's hunts of 1759 at Ujazdów has been preserved in the memoirs of Marcin Matuszewicz. The game was supplied by the ever-reliable H. F. Radziwiłł.

'First the king ordered to bring some game such as bears, wild boars and elks in cages from distant Słuck, Biały and his other estates. But the snow thawed and sleighs had to be pulled through muddy roads by a dozen or so horses. They brought several bears, several dozen wild boars, a great many wolves, and countless foxes and roe deer. It seemed strange especially to foreigners that so many living animals were imported to Warsaw'.

'Queen Maria Josepha' by A. Maryoki

King Augustus gave the signal to start the fun. 'Dogs chased the game towards the king's stand. He shot as much as he wanted. Elks were chased

by hungry wolves together with dogs. When they were tearing at an elk in front of the king's pavilion, he shot the wolves. In sum, the king was unspeakably amused. The hunt lasted nearly five hours and everyone marvelled at such a well-ordered, beautiful hunting, never seen before. Poems were written in Latin and Polish to praise it and so was that hunt made to the honour and fame of the prince standard-bearer and to the great contentment of the king and all participants'.

Karol Szuszkowski, a Warsaw official of Prince Branicki, saw it quite differently. In his letter of 17 January 1759 he reported to his master, 'Yesterday HM the King hunted down at Solec between Warsaw and Ujazdów. First he shot foxes, wolves, wild boars and bears, but they were all in cages, looking miserable. Many of them died on the way and at Praga. The day of the hunt was very bad, windy and then also rainy'.

The victims of the infamous slaughter at Białowieża in 1752 included 42 bison: 18 bulls, some of which weighed more than 700 kg, 18 cows and 6 calves. In addition, 13 elks were killed, including 6 bulls (the heaviest of them weighed 500 kg), 5 cows and 2 calves. Two roe deer were killed incidentally. As Stanisław August Poniatowski mentioned years later, 'the king, queen and the royal princes Xavier and Charles used rifles of such a heavy calibre that in one of the biggest bison I saw two shoulder blades pierced with a single shot'. One of the flatterers suggested that the unforgettable event should be commemorated with an obelisk with an inscription in Polish and German...

Today that monument of shame is shown to visitors to Białowieża Palace Park as a most precious historic relic. How come the list of killers and their victims engraved in stone does not shock the Białowieża Forest historians, who persistently claim that the forest animals owe their survival to the tender care of wise, enlightened rulers of many nationalities: Polish, Lithuanian, Hungarian, French, German and Russian. They are set as an example to follow, as those who profoundly loved the Białowieża Forest.

The origin of *żubr*, the Polish name of bison, is not absolutely clear. It may come from Lithuanian and refer to the animal's fits of anger or to its literal ploughing of the ground with horns and hooves.

Bison initially occurred in great numbers in dense forests of the whole central and eastern Europe. The writings of Caesar contain a description of two most unusual animals living in the Hercynian forests: *uri* (bison) and *alces* (elk). Tacitus wrote that Roman officials demanded from the people of Germania a levy of ox hides measured according to the size of bison hides. The chronicles by Gregory of Tours contain descriptions of hunting bison in the forests of the Ardennes and the Vosges. Here, according to the epic poem *Nibelungenlied*, Siegfried killed a bison.

In Sweden bison were wiped out in the 11th century, in England a century later and in France late in the 14th century. In Brandenburg they ceased to live in the wild by the 16th century, but they were bred in game parks. The elector Joachim II organized fights of bison with other wild animals in Berlin and Köpenick in 1543. The bison calves he bred near Potsdam were exchanged for Icelandic falcons with the king of Denmark. The elector Frederick III made a failed attempt to breed bison at liberty in the forests of Mecklenburg in 1689. The last bison in Rumania is said to have died in 1775 and in Germany in 1793.

The species remained only in the old dense forests of north-eastern Poland and Lithuania. From the 10th century in these lands bison could only be hunted by the king or ruling prince. All other people faced the death penalty for the killing of a bison. In the 16th century the penalty was changed to a fine equalling the price of 24 oxen. Owing to that the forest inspection of 1559 showed that bison lived in all backwoods. In later centuries the area of the species occurrence inevitably kept shrinking as more and more forest was cleared. The species' continued to live, though in small numbers, only in the Białowieża Forest, where the wooded area remained unbroken almost till the end of the 17th century.

The situation changed drastically after the partitions of Poland. The contemporary forester, a Pole Krzysztof Ingelgardt raised the alarm: 'for the lack of people to help riflemen guard the forest against tree cutting and poaching, not only the protection of bison but also of the whole forest must decline'. And so it did. At the turn of the 19th century only 200 bison were found in the forest.

The prewar Polish historians in Vilnius discovered a volume of documents from the years 1802–3 and 1816–27 entitled *The Protection of wild animals called bison in the Białowieża Forest*. In March 1802 St Petersburg authorities asked the Vilnius Governor-General Benigsen what was being done to protect bison and why peasants, who guarded and fed them during the Polish

rule, were now far from it, and finally, what was the current number of bison.

The Lithuanian forest inspector Bekman replied that the situation was bad. Many bison had died, killed by wolves and poachers, especially those from Prussia. He explained that under the Polish rule royal subjects supplied hay for bison in winter, but all villages where the former Polish beaters, shooters and wardens lived, were given away to persons of merit. Only two such villages remained, which was close to nothing for the guarding of the forest area of 200 verst (132 miles) in circumference. There were no hands for haymaking either, so hungry bison left their safe lairs and were killed off by poachers.

Such alarming reports were sent to Moscow by the local administration and at last they resulted in Tsar Alexander' ukases. On 10 September 1802 the villagers of Czwirki (Ćwirki), Panasiuki, Kamienniki and Myzinary Pauckie (later turned into two villages of Kawaczin and Roszkówka) became subjected to the Forest 'in order to protect bison from being killed or frightened and to feed them'. The inhabitants of these villages, amounting to 108 farms, were traditionally called beaters. They were obliged to make and store hay for bison, repair forest tracts, protect forest from fire and supply beaters for hunting. On 15 September 1802 the above-mentioned villages were taken away from General Titolov; in exchange he was given some estates in the Rosienie district. On 28 February 1803 the number of game wardens was increased and they were exempt from any levy.

The emperor did not limit himself to ukases. He pressed the local authorities to hurry and be more active and he did it more than once. Perhaps the tsar, unlike other rulers, really felt responsible as a man for the survival of bison. A description of an authentic situation is found in documents: a high official named Benigsen asked the minister of treasury for permission to kill one bison, the oldest, and present it to the natural laboratory of the Vilnius Academy. The issue was decided by Tsar Alexander

unambiguously: 'Wait till one of those animals dies and then give its body for making a skeleton and a model'.

Hard times for bison came again in the Napoleonic period. In that famous year 1812 the herd had to escape from the Forest to look for peace. The animals swam across the Narew and hid in the forests of Count Tyszkiewicz and the neighbouring estates. From 1821 they were driven back. The minister of treasury Guryev issued an order 'not to interfere with treasury riflemen seeking the escapees in private forests and driving them back home'. Estate owners were strictly forbidden to lure bison to their land. The protection campaign brought unexpected results: in December 1823 the herd in the Białowieża Forest numbered 543 heads.

Under the next Romanovs even poaching somewhat subsided. Restrained by draconian penalties, peasants passed round the 'tsarist cattle', as they called bison. As a result, despite several plagues, hunting and sending individual bison to private game parks, 730 were counted in 1901 and that number remained until 1914.

The German army seized the Forest in the first half of August 1915. As all the villages in the region were destroyed and lacking food, the soldiers suffered hunger. The commander-in-chief Prince Leopold of Bavaria ordered that the needs of the army could be satisfied with anything that was available in the country. Animals were at hand, the hard-to-scare bison in particular, and the army was equipped with heavy machine guns.

As there was hunger in the occupying army's country, too, German railwaymen and forest workers employed at robbing the Forest's timber started to hunt animals and send the meat by rail to their families. It was soon noticed and the matter was duly regulated. One historical source indicates that on 20 April 1915 the German army command issued a provisional decree on hunting, which imposed strict protection of bison. It started as follows, 'The Białowieża Forest is known all over the world. Among a large

quantity of game, it has some bison, the only preserved in the whole of Europe. Though it concerns the enemy country, we wish to preserve those bison for posterity as a unique monument of nature'. According to another source, it was not until 30 August 1915 that a division command order strictly forbade to kill any bison and a similar order was given to the whole army on 25 September. The order was obeyed so dutifully that even the Saxon king who came from Dresden to visit his army was not allowed to hunt bison.

Nevertheless, in August 1915 there were only 150 of them and in March 1917 – 121. How many were left alive after the withdrawal of the German army remains unknown. As Colonel Konstanty Chłapowski noted down, 'during the disintegration of the German army at the time of the revolution the Forest area drifted into complete lawlessness and local peasants continued its destruction'.

But the bison did not share the fate of the aurochs. Poles have a good reason to be proud. These days, 250 'emperors of the forest' live, multiply and die in their ancient lair – the backwoods of the Polish part of the Białowieża Forest.

The Exploitation

The fate of animals is inseparable from the fate of forest trees. The admirers of the myth about the kings for whom the Białowieża Forest was sacred are ashamed to admit or belittle the fact that the loving rulers exploited the forest without mercy. In our journey throughout centuries we shall leave the company of animals for a while and try to trace and understand the fate of the forest itself: what really made it survive till the 21st century.

In the 16th century, when the Białowieża Forest was colonized, it was separated by fields from its sister forests, which in the course of time were completely cut out. Fortunately, the main wave of settlement turned to the southern and western edges of the forest. The northern part, guarded by the Świsłocz Forest, and the eastern one, protected by impassable swamps, were the least settled. The forest constituted a huge, homogeneous complex in 1557, when the Wołoki Act put a stop to uncontrolled settlement. That was the first turn of fate which made the forest survive.

It was connected with another fortunate circumstance: the monarchs considered it their precious private property and set numbers of officials on its guard. The rulers spent their leisure time hunting – both a social and sports event and a lucrative source of income. The dense forest reaching up to the horizon and situated far from populated areas and big towns seemed to be an inexhaustible storehouse of meat and wild animals hides. Thus, successive rulers passed edicts forbidding its depletion, i. e. clearing and breaking up. In the 16th century the forest avoided being

turned into fields and meadows due exclusively to the tribute paid in the killing of thousands of animals every year at the will of kings.

For several centuries local people were the main regular users of forest timber. Each of the rulers understood that it was impossible to live without this raw material and any kind of prohibition would only result in theft. All royal forests belonged to royal demesne, which also comprised farmsteads and tenant or subject villages. They had to be supplied with basic timber for building and fuel, as well as for the manufacture of furniture and tools for everyday use. Timber was sold to peasants at a price depending on current regulations and taxes of various sorts. In case of natural disasters or war destruction they received timber rations free.

Such a way of using the self-renewable resources of the Białowieża Forest posed no threat to its continuity.

From the 15th century Europe started to suffer from the lack of timber. Its main markets: England, Holland, Spain and France were more and more often looking to the east. In Madrid and Lisbon documents have been preserved concerning the purchase of timber for ship construction and its floating along the Narew and Vistula to the Baltic Sea. It signalled that the vast Lithuanian forests, apart from profit from hunted animals, could also bring real money from logging. The rulers showed good mercantile skills. The oldest forest acts of 1514 and 1529 (under Sigismund I the Old) and of 1557 (under Sigismund II Augustus) granted the whole profit from forest exploitation to the king. Sigismund Augustus' rich collection of jewellery, described by the nuncios Buongiovani and Ruggieri, included 16 boxes of fabulously rich jewels: emeralds, rubies, diamonds, gold and silver worth over a million ducats. Horses were another costly passion of the king. He had a stud farm of 3,000 horses at Knyszyn.

Samogitian forests were the first to go down. Their location near the sea allowed for a better profitability of timber trade and it determined their annihilation. The tradesmen Hanus Skop and

Bolemann as well as a tycoon Iberfelt cut trees recklessly and shared the income with the royal treasury. There was no need to draw on the resources of the distant Białowieża Forest; they had enough timber on the spot.

Such need emerged in the 17th century and since then it has never disappeared. The first contract was signed on behalf of King John II Casimir in 1660 with the faktor, or agent, Gryskiewicz. Entitled *The Ordination of forest commodities in the Grodno Forest*, it allowed 'to manufacture goods of all kinds such as floorboards and lumber out of forest trees, cutting pines, oaks, firs, lindens and other trees in that forest and paying a trunk-tax'. The trading principles and prices of individual goods were specified in detail.

From then on the Białowieża Forest trees were continually floated down the Narewka, Leśna, Biała, Narew and Vistula rivers. In the 18th century the system of forest lease was declared to be unprofitable and outdated. In 1764 King Stanisław August's Secretary for Hunting, Godfryd Harnak, calculated that it would be better if 'the treasury took over the trade and sold beams, masts, oak logs and other timber; instead of a low tax paid by a contractor from each tree trunk, the treasury could have 150 per cent profit and thus take advantage of its own property instead of enriching foreign merchants'.

The idea was picked up and put into practice in 1765 by Antoni Tyzenhauz, the general administrator of the royal estates of HRH Stanisław August Poniatowski. On his initiative the Sejm of 1775 set up a special commission for forest settlement in the whole Grand Duchy of Lithuania. A number of owners were legally deprived of the right to use the forest timber resources starting from 1780. It turned out that only a small number of them were able to prove their rights with written documents. But it was not as easy with magnates as it was with the nobility. While most of the owners gave up, the Radziwiłls of Czarnawczyce estate were far from it. The documents from the late 18th century noted

a number of trials and forays, which after the fall of the Republic were continued in the courts of the Empress Catherine II.

Despite such difficulties, Tyzenhauz seized nearly the whole timber trade in the Białowieża Forest firmly with his hands. He personally negotiated terms with Gdańsk merchants; he increased taxes, specified fines for breaking the law and divided the existing three sections of the forest into 13 'guard areas' separated by 7-metre-wide roads. Having introduced the most important organizational changes, he began to improve the transport of forest timber into the world via the port of Gdańsk. He built three rollways for storing thousands of logs on a riverbank, pushing them down on the water and tying into rafts. He regulated rivers and tried to drain swamps. He connected the sources of the Narew and Narewka by means of a canal crossing the Kuty and Orłowo marshes. Apart from that, he built a few glassworks and potters' workshops, opened numerous wood distillers' and turpentine works and brought some Mazurian tar distillers living on the Vistula to manufacture tar and potash. They were settled on three small clearings near Białowieża, the present villages of Budy, Teremiski and Pogorzelce. The latter was not a good idea, though. In 1798 the forest warden Engelgardt alarmed the authorities that the distillers 'were born rascals and vagabonds possessing neither a harness nor a farm' and they were totally unfit to guard the Forest. He suggested that they should all be removed to the newly established farmstead of Masiewo, while Teremiski and Pohorelec (Pogorzelec) should be planted with forest.

Tyzenhauz's policy was very effective. While at the times of the last leaseholder, Flemming, the Brest and Kobryn estates and forests paid 650,000 złotys annually to the treasury, during the 12 years of the Tyzenhauz administration the revenue per year averaged 1,533,000 złotys. The price of the most valuable sort of timber, oak logs hewn on all sides, 3 to 6 m long and 30–40 cm in diameter, was only 1 złoty. It gives an idea of what bargain was made when we compare it with the price of one litre of corn, which was 1 złoty 6 groszy.

In 1795, a few months after the fall of the Polish-Lithuanian Republic, the Białowieża Forest suffered the greatest blow in its whole history. In comparison with it, commercial logging in the most accessible sites was nothing. The damage inflicted then on the forest it still visible today: a huge triangle of deforested territory cutting from the east almost into its middle...

After the suppression of the Kościuszko Polish national insurrection Empress Catherine II was besieged by a crowd of military men demanding some reward for their merits. The easiest solution was to give them the freshly robbed estates and offices of *starostas*, which used to belong to Polish kings. The newly-appointed governor-general of the conquered country, Prince Nikolay Repnin assured that it was no sin to accept such estates. So land, forest and manor farms along with their inhabitants were scrambled for. A single document bearing the tsarist seal changed all beaters, wardens, shooters, foresters and beekeepers into serfs and the forest was deprived of its royal guardians. By the written order of Catherine of 18 August 1795, estates in Lithuanian provinces were granted in perpetuity to: Lanskoy (900 souls in the Brest estate, counting men only), Suvorov (the Kobryń 'key' with 6,922 souls) and the empress's favourite Zubov (13,699 souls in the Szawle, or Siauliai estate).

One of the heroes, General Rumiantzev, who received the Prużany 'key', also had an appetite for the 'governmental forestry' – the vast Jamneńska area, where he had heard 'wild cows lived'. Prince Repnin knew what it would mean to the forest, so he tried to bribe the fan of bison hunts with some additional estates in the Kobryń forest district. All to no purpose. Thus in his letter to Rumiantzev of 2 November 1795 he wrote: 'For Your Lordship I shall separate the Kraśniczańska guard area from the Jamno forest district, exactly where the wild cows live, of more than 9,000 hectares of good forest'.

So the tsarist dignitary got what he wanted – in all 20,000 hectares of the Forest and the surrounding woods, including

5,700 souls. But he died suddenly on 8 October 1796, having scarcely had a chance to enjoy his hunting. He left the so-called Rumiantzev's road, two long, straight tracts cutting into the very heart of the forest. His heir Mikhail Rumiantzev quickly sold off the estate to the neighbouring landowners and Jews, who saw to it that no tree was left on a vast area of the forest.

Catherine II and her unstable son Paul granted a whole multitude of similar rewards. In three years a number of generals' and aristocrats' families settled in the forest and around it and used it to excess: the Fersen and Siewers families (10,000 ha each), the Suvorovs, Lanskys, Zubovs, Dunins, Gagarins, Skowronskis and Branickis – a full list of the Russian, Polish, German, and even Italian and Greek names would be long. The farmstead of Białowieża and the village of Skupowo were leased for 50 years to Count Mikhail Kutuzov. The forest lost altogether more than 40,000 ha of its total area of 128, 494 ha, as estimated by the tsarist surveyor Galisevitch in 1793.

Reports by tsarist officials in the last years of the century told about the 'emptying' and 'destroying' of vast areas of old wood stands, but resources of precious timber still remained. In 1795–6 two tsarist ukases forbade estate owners to fell trees suitable for ship building, and a zealous official named Szczepanowski penetrated the last remaining backwoods to register all valuable trees that were still standing and to send their list to Moscow. He found 4,423 pines for beams, spars and bowsprits, 344 precious oaks for planks and cams, and 1,072 ashes.

In 1798 the Białowieża Forest passed to the Forest Department and it was from then administered by Russian officials in their own way. In 1811 a terrible, devastating fire was started by someone and lasted four months.

Timber trade at that time was almost wholly under the control of wealthy Jews, such as Lejzerowicz, Jankiel, Perelsztejn,

◁ *'A Felled Oak' by I. Shishkin*

Rotenkrug, Berko and the richest of them: Icko and Chaim Zabłudowski from Białystok. They found partners in the forest officials on higher and lower levels, so corruption and frauds in accounting spread, diminishing the profits of the treasury. At the same time nature suffered great losses. Vast areas of forest were cleared and huge illegal storehouses for timber were built to keep it until shipment. A document of 1817 informed that four guard areas were already totally cleared of 'commercial timber fit for ship building'; in 1818 reports warned that 'the governmental forests are being destroyed hour by hour'. Such unpunished plundering lasted till 1820.

In 1795 bison were the indirect cause for the cruel injury to the forest. 25 years later they saved it from destruction.

Tsar Alexander I took the throne from his father Paul in 1801 and held it until 1825. In an often quoted publication I found a statement that 'Alexander I was completely uninterested in the Białowieża Forest'. It is a very unjust statement. As early as one year after his coronation the 25-year-old ruler issued two orders which drove out the heroes of the campaign against the Kościuszko rising, increased the number of game wardens and abolished serfdom. This extraordinary man was the first monarch in history to defend the bison quite disinterestedly. He would not allow a single old animal to be killed, even for a museum, but he ordered to wait till it dies a natural death. On his order a herd scared away from the forest backwoods by the Napoleonic army in 1812 was found and brought back home.

On 3 December 1820 – the date completely ignored in contemporary debates on environment protection in the forest – Tsar Alexander I made the State Property Department forward an order to Grodno *oberforstmajster* banning any sale of timber, not to scare the rare animal species with the noise of tree cutting. It was tantamount to turning the whole Białowieża Forest into a strict reserve!

The officials whose vital interests were connected with logging staged a vehement protest. One of them, the governor of Grodno M. Andrzejkowicz argued:

1. The Department must realize that bison live only in some backwoods of the Białowieża Forest, which is up to 46 miles long, namely in the areas where a specific kind of grass similar to rue grows, which they need for nourishment. Only in those backwoods should logging be forbidden in order to ensure peace and quiet to the bison.

2. The closing of entry to the government forest will cause irreparable losses to the citizens of several districts, who can buy timber only here, as there are almost no private forests.

3. Many contracts have already been signed and bills were purchased from the treasury, so it would be just to allow for the removal of timber for those paid bills.'

The tsar was a tough guy. He did not believe the special-grass story and he received the information about the total exploitation of private forests as a warning. His decree of 4 February 1821 confirmed the earlier order: the Białowieża Forest was declared an inviolable territory. But the tsar was far away and busy with the matters of his whole empire...

In 1823, six years after the statements that there was hardly any firewood left in the forest, the same officials suddenly noticed many fallen and dead trees in all 12 guard areas, which had to be removed to the forest's benefit. Besides, the Brest and Prużany districts were poorly forested and suffered from the lack of firewood and timber. In consultation with the Ministry of Treasury, the State Property Department permitted to sell the 'mentioned categories' of trees initially in two areas only. That solution was not satisfactory, though. In 1826 the marshal of Brest Piotr Jagmin appealed to the governor of Grodno Bobiatyński: 'The consequences of the ban on timber sale are terrible for the inhabitants of the Brest district. Peasants use straw, fences and parts of buildings for fuel; the soil is not manured, people starve. They keep asking for a lift of that ban

and their requests are turned down because of the bison. Formerly, timber was always logged and it did no harm to bison, for they have their lairs only in some places'.

A year later the Ministry of Treasury officials registered over 30,000 fallen trees and 120,000 feet of fallen trunks and branches. The sale started in 1828. In the autumn the fallen timber and dead-wood, amounting to 400 logs and over 5,000 feet of wood, was put up for auction. 27 bidders registered but the business turned out to be unprofitable, for the prices of wood in the Białystok region and the Brest and Bielsk districts were low. They were the lowest in the Prużany district, where wood from the forests given by the tsarina to Graf Rumiantzev was sold off for nothing. Thus the wood prepared for sale stayed in the forest to rot.

Matters looked different with the highest-quality timber.

In the first half of the 19th century the European navy and merchant fleet of well over 40,000 ships was still wholly relying on timber: pine for masts and oak for hulls. For one battleship able to sail for 15–20 years as much as 11,325 cubic metres of best-quality timber was needed. The further development of trade and some countries' maintenance or increase of their domination in the sea depended on the power of the forests to produce enough high-quality timber, which they did not possess.

The rulers of the seas: England and the countries of central and southern Europe had long forgotten how primeval forest looked like. Even Russia, until then so rich in forests, was already stripped of trees up to the Ural Mountains. The northern, Baltic and Volga regions could cover only 1% of the total demand of the Ministry of the Sea, while the Białowieża Forest, 75 km away from the Niemen River, still had enormous resources of timber. Thus they reached for the goods they had robbed from the Poles. On 28 December 1838 the successive tsar, Nicholas I, ordered a test to be carried out: find there and cut down 2,135 huge oaks, 215 pines for masts and 700 pines for the bottom of oak rafts. They were to be floated to Kronshtadt, a Russian port built by Tsar Peter the

Great on the Neva River and called a 'window to the world', where two battleships were to be built out of them.

The Ship-timber Forest Department assigned engineer Jakimowsky as its representative. Even though he had all the necessary directives, in fact he was given carte blanche for his actions in the Białowieża Forest. First of all, he had to hurry. Having obtained such instruction and a letter of recommendation, he came to the governor of Grodno, Dopelmajer, on 17 January 1839, got his blessing and the price list for labour and transport. He could start his job at once. 3,000 woodcutters were brought. Wherever it was possible, they cut the forest clear; at other places they selected individual trees and cut them on a large scale.

In his report of 7 July, Jakimowsky wrote that 2,838 oaks, both fit and not fit for ship building, were felled. 1,943 of them were transported to the Niemen, because the Narew could not carry such a great multitude of timber, and 1,480 were already being floated to Memel (Klaipeda). On 13 July the whole timber was shipped and the engineer could travel to Kovno to express his warm thanks to the governor for his prompt cooperation and help, without which he would not be able to carry out his difficult task. Much later, in 1842, the news from St Petersburg reached Białowieża that 1,958 oaks had floated safely down the Niemen, via Memel and the Baltic Sea to Kronshtadt.

Alexander's dream of the Białowieża Forest protection was over. In 1843 a commission from the Ministry of State Property arrived at Białowieża. It consisted of Russian foresters and topographers under the supervision of appraisers Kshywitzky and Muravyev. The forest area along with peasants' land was divided into 541 two-verst (1,32-mile) squares. To make the cuttings which marked those units took five years. A 180-year cycle of logging was established, divided into six 30-year periods.

In order to break the monopoly of Jews in the trade of timber, in 1845 the Russian government started cooperation with the British firm Mallana. When it began to log pines of various sorts,

the local companies undertook decisive action against it. In 1847 Mallana was replaced by another British firm, Tomson, Bonar & Co., but this one also made heavy losses because of the machinations of the Zabłudowski family. The old tycoons won the battle. Icek Zabłudowski, supported by the governor of Grodno von der Hoven, was granted honourable Russian citizenship from the government. He bought the Popielewo estate on the forest edge and settled many Jewish families in the vicinity.

In 1854 the interests of companies which dictated prices favourable for themselves were threatened again. The Minister of State Property Kiselev invited tenders for the shipment of 60,000 pines to be logged within five years. The Buggenhagen department store from Berlin was asked to participate and secret negotiations with that firm were carried out hurriedly. Within a few days Buggenhagen received an ambiguous contract. An open war broke out, initially won by the locals. Kiselev had to resign, replaced by a new minister. The tsar's ukase on 'ship-timber forests' was applied. It allowed the state to seize forest areas rich in pine, oak and ash tree stands situated near navigable rivers for its own disposal.

In 1855, 8,348 ha of such ship-timber forests were marked out in the Białowieża Forest. Two years later another 41,808 ha of the most precious trees were added. As the total area of the Białowieża Forest at that time amounted to 87,967 ha, the greedy trader caused the loss of 57% of the forest. The remaining, mostly southeastern part, was worthless for foreign trade, having been thinned out long ago.

That did not last long, however. Buggenhagen used his influential friends at the tsarist court and regained his right to log in the Białowieża Forest. He quickly made up for his losses, while the local company from Grodno and Białystok had to go without big business. What is more, he received the Order of St Stanislas III class from the tsar and a gift of 10,000 extra trees in addition to the contracted number as compensation for his alleged investment in the improvement of the forest rivers' navigability.

Administrative division of the Białowieża Forest in the 18th and 19th centuries

- Beaters' village
- VII BROWSKA — Number and name of a guard area
- Boundaries of guard areas
- Boundary between sections
- Game warden's house
- Shooter's house

The Year 1812

In winter a pair of strange ravens came to the Krukowska guard area. The birds settled in the Ostrowki forest range. In early spring they built a nest in the branches of a tall pine and the female sat on the eggs. The ravens migrated from Kozłowe Borki beyond the Przewłoka River, where they ruled the air for many years and no bird of prey would dare to enter their territory. Last May the old ravens lost their hunting ranges and their nest for ever.

The Białowieża Forest burnt for 120 days and nights. The fire set by a man's hand spread from edge to edge of the forest as swift as the wind. It devoured masses of dry wood lying on the forest floor and dead trunks with the same eagerness as green, living trees. Who did not manage to escape the racing fire was burnt right on the spot or even if he somehow found a way out of the flames and smoke, he died in torment for weeks afterwards. Mice, roe deer and bison were killed alike. Fire swept Kozłowe Borki and the raven nest with young birds along with it. Animals fled for safety to swamps and marshes, the confluence of the Narewka and Hwoźna, the waters of the Biała, Leśna and Przewłoka, the backwoods of the Krukowska guard. When slow river waters and muddy riversides stopped the furious elements at last, only the

black stumps of burnt trees spread far and wide to the north and west, while in the south green forest stood almost intact by heat and dryness.

The final salvation came in October, when the sky was darkened by a thick layer of clouds and the rain lasting for many days put out every persisting flame. The ashes cooled slowly, the parched earth soaked with water. Then all of a sudden the forest was swept by frost and covered with snow. Predators and carrion-eaters had plenty of food. Foxes, wolves, ermines, crows and ravens swarmed in the forest, led to it by some mysterious instinct, to kill off the still-living victims of the fire and gorge themselves on frozen carcasses. Next spring their holes and nests would be filled with an astonishing number of young, but they might face hunger in the forests devoid of living animals.

The first V formations of geese were heading to the Polar Star, when the raven chicks hatched on a tall pine. They were bare, bluish black and blind. They slept clinging to one another and waking up for a while only when one of their parents landed in the nest. Then they gave out low whimpering sounds and opened their bills wide, showing their red mouths. They swallowed pieces of food put delicately in them and fell asleep again. At the beginning the mother stayed with the nestlings, so they were all fed by the male. It was not hard: a frozen bison carcass was still lying on the bank of the Przewłoka River. The big animal had run away from the fire but its lungs were severely burnt. Coughing, consumed by fever and left behind by its herd, the bison laid itself down in the bush not to stand up again.

A raven

'O year of years! And to have seen thee there!
The people call thee still the harvest year...'

(Adam Mickiewicz, *Pan Tadeusz*, translated by Kenneth Mackenzie)

Spring took hold unexpectedly, with plenty of warm rain and sunshine. Nature got into a frenzy. Fields and forests woke up to life again; grasses, herbs and trees produced flowers. Leaves spread wider and wider, green shoots rose up to the sky, bigger and stronger than ever before.

Four young ravens were hungry. Already in black feathers, though some of them were still hidden in soft horn-like tubes, the nestlings had been waiting impatiently for their parents to come home. The old ravens had to fly further and further away from the Ostrowki range and every time they brought smaller pieces of food to the nest. The bison carcass was eaten up by foxes and ravens and its rotten remains were now filled with the larvae of flies and burying beetles. Spring rain and the sun bleached the skeletons of animals killed by the fire; in their eye sockets young grass was growing. Only frogs and garbage found on man's refuse heaps was left for ravens. Young birds stopped growing. They lost their vigour and desire to train their wings. They perched sluggishly on branches close to the nest and only the sight of their parents coming made them utter a hoarse, begging croak...

At the beginning of July the old ravens returned from their first flight one morning, carrying fresh, red meat in their bills. They made many more such rounds, bringing a new portion each time. When the sun descended behind the spruce trees on the west side of the forest, six overfed ravens settled themselves to sleep amid the twisted branches of a pine. At dawn the whole family rose into the air and flew south until they disappeared beyond the trees. That year the ravens did not return to the Ostrowki range. Since then, their ominous dark shapes against the blue sky accompanied the armed units of human soldiers camping at the forest edge. Always replete, they hovered above groups of infantry and cavalry moving along the Białowieża roads. From above the birds watched their fraternal strife, for which they put on uniforms of different cuts and colours. In mid-July a black swarm of ravens flew

over 30 miles to alight with the humming of wings on the Kobryń battlefield carpeted with dead men and horses.

The predators were supplied with food for the whole summer and autumn. But then came November and an early winter. A white curtain of snow was slowly falling down to the ground when the last soldier units vanished on the northeastern horizon.

On the following morning a vast multitude of ravens, rooks and crows circled chaotically over the forest, cawing sadly. Around noon

'Napoleon's Vision on His Retreat from Moscow' by J. Kossak

they rose higher and the dense black cloud of birds drifted towards the distant Berezina River. Below, hordes of wolves followed with their noses close to the ground, scenting blood...

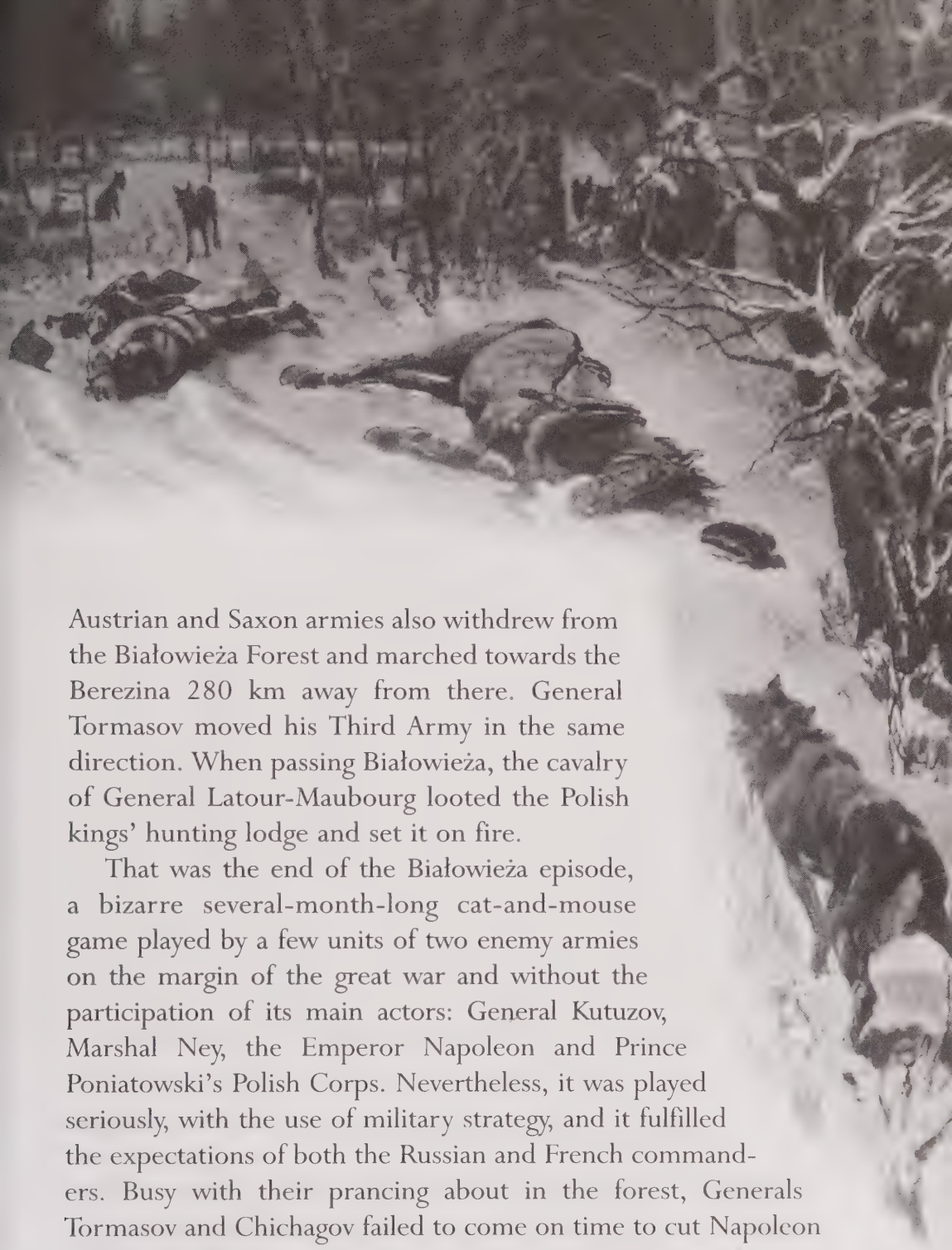
On the night of 23 June 1812 a few sappers from Napoleon's army crossed the Niemen River to the Russian side and fired three shots at a Cossack on guard. That was how one of the most tragic wars in modern times, a favourite subject for painters and novelists, began. The Emperor Napoleon Bonaparte collected an army of 350,000 Frenchmen and 320,000 foreigners from all over Europe to crack down on Tsar Alexander. Among them was the Fifth Polish Corps under Prince Józef Poniatowski, comprising 35,000 select soldiers. The imposing agility, heroic attitude and high morale of the Poles, struggling for independence of their country and extremely loyal to Napoleon, became legendary in the history of Europe.

The Russian campaign of Napoleon; the battles of Smolensk and Borodino; the entry to Moscow burnt by the Russians; the heroic retreat of the Grande Armée in 35-degree frost, snow and continuous clashes with the army of Kutuzov and the Cossacks; the melting away of the chaotic, poorly dressed and starving army; the burning of standards on the Berezina and the heroic crossing of the river; the escorting of Napoleon by Poles on 28 November along the never-ending road to Vilnius; thousands of corpses of Europeans lying on the snow-covered plains; and the crossing of the Niemen by the last French soldier at 8 p.m. on 14 December 1812 – all these facts have been noted by historians and depicted in works of art and literature. But hardly anyone knows the Białowieża episode of the Napoleonic campaign.

After the fire of May 1811 which destroyed the Białowieża Forest, started most probably from dry-grass-burning still practised by peasants today, the winter and spring of 1812 passed peacefully. In late June the area south of the forest was seized by the 30,000 Austrian corps led by General Schwarzenberg, supposed to protect the right wing of Napoleon's army against the attacks of the Third Russian Army of General Tormasov. Wartime anarchy took hold of Białowieża and other forest settlements. Russian higher officials fled; foresters, wardens and peasants took

to poaching. Local Poles cooperated with the French. At that time Napoleon directed the Saxon Corps of Marshal Regnaud to the Prużany region. On 15 July a bloody battle was fought at Kobryń between the Russians and one of Regnaud's brigades, which ended in the total defeat of the Saxons. Victorious Tormasov set up his camp next to the southern edge of the forest. He engaged in guerrilla warfare within the Białowieża and Świsłocz Forests against the enemy, who did not dare penetrate the unknown backwoods. However, early in August both corps: Schwarzenberg's, which comprised a Polish unit, and Regnaud's joined their forces and General Tormasov had to withdraw to Volhynia on the other side of the Bug River. The main Austrian and Saxon forces marched round the forest from the south to the north, while their purveyance and reconnoitring detachments reached all villages and settlements. The soldiers hunted bison and took rest.

In mid-September Russian reinforcements arrived: the Moldovan Army of Admiral Chichagov. Together with Tormasov they seized Brest on 29 September. On 13 October Chichagov moved his soldiers towards Smolensk and the Berezina to cut Napoleon's way on his retreat from Moscow. To stop him, Schwarzenberg made a quick raid on Volkovysk. In answer, some of Tormasov's army left Brest to struggle through the forest from south to north and aid Chichagov. On 29 October the Russians marched through Białowieża and Rudnia and on the next two days they tried to reach the open terrain near the villages of Hrynki and Studzienniki. There, they were given such a heated reception by Regnaud's corps that they hurriedly withdrew to Rudnia and then to Białowieża. A few days later they tried to leave to the south, for according to their survey only a handful of Schwarzenberg's soldiers stationed at Szereszewo. In fact, there were twice as many of them. Therefore, as the historian of the Romanovs put it, on 9 November the Russian army 'stepped back in full order to Brest and then to Polesia'. The



Austrian and Saxon armies also withdrew from the Białowieża Forest and marched towards the Berezina 280 km away from there. General Tormasov moved his Third Army in the same direction. When passing Białowieża, the cavalry of General Latour-Maubourg looted the Polish kings' hunting lodge and set it on fire.

That was the end of the Białowieża episode, a bizarre several-month-long cat-and-mouse game played by a few units of two enemy armies on the margin of the great war and without the participation of its main actors: General Kutuzov, Marshal Ney, the Emperor Napoleon and Prince Poniatowski's Polish Corps. Nevertheless, it was played seriously, with the use of military strategy, and it fulfilled the expectations of both the Russian and French commanders. Busy with their prancing about in the forest, Generals Tormasov and Chichagov failed to come on time to cut Napoleon off from the Berezina, despite clear orders to do so, which saved the French. But General Schwarzenberg was also late with his aid to Napoleon.

Fire is the greatest disaster befalling the forest. In ancient times it was caused only when lightning struck dead dry trees, either deciduous or coniferous. But it rarely destroyed really big areas. Storms are almost always accompanied by heavy rain, which puts out fire burning in moss, grass and bushes. Former forests were characterized by a great mixture of tree species of various age and a considerable dampness of soil. A flame caused by lightning destroyed a section of forest and died out on its own when it reached the nearest wet land.

A patch of burnt-out open ground, fertilized with ashes, cleaned of harmful insects and warmed by the sun, was soon filled with green seedlings of trees. It took grasses, herbs and young trees but a few years to cover all traces of the disaster with lush greenery. The most imposing old tall pines, which required open space and sunshine to grow, owe their present existence in the Białowieża Forest to lightnings.

A real threat to the forest has always been posed by fire caused by people. It usually breaks out in early spring, when trees are still without leaves and forest debris is dry, or during long summer droughts, especially in places where dead trunks and branches are piled up or in coniferous monocultures. The reasons have been the same for centuries: carelessness, recklessness or deliberate acts of setting fire to a forest.

In the Białowieża Forest fires were started by peasants who burnt grass on nearby meadows in spring, shepherds warming themselves by a bonfire, numerous workers employed at burning charcoal and tar production, woodcutters and beekeepers, wandering Gypsies and vagabonds hiding from justice, and at wartime soldiers of all possible armies.

Attempts at extinguishing fire were futile. To call in, transport and organize an adequate number of people from villages so distant from each other, to equip them with rakes, shovels, axes and saws, to bring pumps and water tanks was far beyond the capabilities of people in old times. The only thing they could do was to stop the fire from

spreading. They watched roads at some distance from the burning forest, so that fire would not cross to the other side. With shovels and rakes they dug wide belts of bare soil. Any small flame was stamped out and covered with soil. Sometimes a risky method called 'counter-fire' was applied: fire was set simultaneously to a long belt of brush and debris opposite the raging fire, where standing trees were more scarce. When the main wall of fire approached that belt, the area was already completely burnt and the fire went out.

Those were all half-measures though. Every forest fire, no matter whether natural of man-made, has always taken a heavy toll on animal and plant life, often destroying man's own property.

'The Burning of Standards on the Berezina' by W. Kossak

‘Bryki’

On 8 February 1830, on the recommendation of the Government's High Commission for Religious Denominations and Public Enlightenment, Professor Feliks Jarocki came to the Forest to participate in the killing of two bison. 'His Majesty the Emperor of Great Russia and King of Poland Nicholas I in his kindness donated [those bison] to the Zoological Collection of Royal Alexander's University of Warsaw'.

The visitor first directed his steps to the district forester and the Białowieża Forest manager based at the village of Królowy Most. Eugeniusz de Ronco, an educated and hospitable man, deeply hid his discontentment. The unexpected visit of the professor, who stressed his own importance and his humble deference to the tsar, greatly worried the forester, a Polish patriot of Swiss origin. In his heart he hoped the embarrassing guest would leave soon. It was not a problem to kill two bison – just a matter of one expedition to the forest. But it did not go so smoothly. Some high officials were missing, which made it impossible to hunt for bison on behalf of His Majesty. A shooter was sent with an urgent letter to the provincial capital. It took six days for Jonatan Tu-Han Baranovsky, a representative of the Senior Forester of the Province, to travel 22 miles from Grodno to Królowy Most. For two days more they waited for Mr Szpinka, a high official from Prużany. When a required team of inspectors, foresters and other officials had gathered at last, on 15 February they started the job. They easily killed a big solitary male bison. They had been watching him for six days, chased him on Sunday and at 4 p.m. on Monday he was shot by Tomasz Szpakowicz. Then Mr Engielhard, a citizen, killed the giant

animal off with two shots of his double-barrelled gun. The next day to satisfy the professor's need for a female bison they spent half a day in the Augustowska area reviewing the herd of 13 bison, which were driven from place to place. The weather was bad, with heavy snow and wind, the visibility was poor and the professor made an awful fuss. At last, warden Martysiuk had had enough and he chose a female bison himself. He fired and the wounded cow ran away. It seemed they would loose her but her wildness was not matched by strength and the shooters caught up with her and surrounded her. She staggered for a while and slowly collapsed. 'They fetched a small tree and put it on the lying animal's neck; then several men sat on its ends to strangle her to death'.

Now that the 'hunting on permission of His Majesty' was over, it seemed nothing else would stop Professor Jarocki from going back to Warsaw. Wishful thinking! An unexpected thaw and all night's rain put the zoological specimens at risk. The sleighs ready for the journey were unloaded. The bison were skinned and the skins were soaked in spirit; the carcasses were filled with crushed coal and wrapped in mats.

On 19 February the four sleighs of the troublesome visitor left Białowieża at last. Forester de Ronco followed them with his eyes and thought, 'Did he suspect anything or not?'. Though he was accommodated in a plain warden's cottage, his time was filled with riding in the forest under escort and talking about game, and they never touched upon politics, it happened that the professor came unexpected to the forester's house in the evening and saw a group of local citizens, including beaters and shooters, debating there...

A copy of Jarocki's report to the Government Commission on the Białowieża Forest and its most important animals did not reach Królowy Most until June. But then the locals sighed with relief. The document was full of flattering words addressing the tsar, all in capital letters, but it was free of anything that could arouse the suspicions of the secret police. The professor was only concerned about nature and the enriching of the University zoological collections. Moreover, he was so cleverly informed by wardens that he unknowingly helped the Great

Cause by writing in his report: 'Wolves (*Canis lupus*), because of a total ban on hunting them and their safe hidings in dense osiers under fallen trees, have in recent years multiplied so that they made a lot of harm to bigger game, namely bison...'

Pan de Ronko, as the forester liked to be addressed in the Polish manner, could now safely organize citizen gatherings devoted to the 'wolf problem', as they said in public.

Wolves, protected by the tsarist ukase of 1802 banning any hunts in the Forest, in fact had unusually multiplied since the memorable 1812. Human corpses barely covered with ground and horse carcasses not buried at all drew many packs of wolves. When the ghastly carrion was eaten up, they turned to forest and domestic animals. In 1827 wolves killed four bison, in 1829 – 18 horses, 30 oxen, 101 cows, 70 calves, 128 pigs, 344 sheep and 121 geese, not counting wild animals. It was too much. An order came to catch the predators in nets and destroy their nests with young. Everybody who brought a fresh wolf hide to the office was rewarded with money. Finally, forest wardens were allowed to use firearms throughout the year, on the condition that they would not hunt other game or scare bison. The way to collecting arms and ammunition was open...

The time of trial came next spring.

'*To Antoni Szreter*
Warden of the Haynowska Guard

ORDER

Your Honour is obliged under the penalty of death to arrive with your whole Command at Białowieża on 1 May of this year and from there go as further directed. Białowieża, 28 April 1831.

Eugenjusz de Ronko, Forest Inspector.'

The Poles living in the Forest and its environs were not surprised by the order of the main organizer of the Białowieża armed movement for

independence. No one was seriously engaged in wolf killing. They had been waiting patiently for several months in readiness for the call by the leaders of the insurrection that broke out on the last night of November in Warsaw. The whole of Lithuania was boiling with rage. Several thousand men were engaged in the movement and single units began to appear near Białowieża. All forest wardens, local nobility and numerous peasants came in answer to the Forest Inspector's call. It was high time, though. The tsarist General Roman Rosen stationing at Brest learned that some rebels were camping in the Krynica forest range. To put things in order he sent two troops under Lieutenant-Colonel Górski, followed by three companies with a cannon and its Cossack operators. But the general underestimated the patriotism of the forest inhabitants.

On 4 May the Russian army entered Białowieża. As it was deserted and no one opposed them, they marched toward the Królewska Altana (Royal Pavilion) range, where they bravely crushed a small Polish unit. They seized some weapons and powder and... a lot of booze.

Meanwhile, the main insurrection forces waited patiently in the thickets on the Hwoźna riverbank. Soon General Rosen received the unpleasant news: Górski's troops were smashed to pieces and General Liden, sent to their rescue with two cannon, the Żytomierz regiment and the Volhynian Uhlans troop, mislead by the local people instead of small rebel bands met General Chłopicki's regular cavalry units and the remnants of the Russian army surrendered to the insurgents. The last bitter pill for the Russians to swallow was the seizure of 418 Russian carts (*bryki*) loaded with all kinds of military equipment by the Poles in a skirmish on the Hwoźna.

For a long time afterwards the traces of the crushed battery and burnt campsite reminded the partitioners of their campaign against 'undisciplined rebel bands' and the Białowieża Forest gained a new name: the Bryki Range.

The final act of the Congress of Vienna in 1814–1815 brought into existence the Congress Kingdom of Poland 'connected with the Russian Empire' and comprising the territories annexed by Russia in the three partitions plus the Białystok region. In May 1829 Tsar Nicholas I was crowned King of Poland.

After a few years of the Congress Kingdom's existence the more enlightened groups of society began to perceive it in different ways. Some Poles were utterly loyal to Russia. Sometimes their chance for individual career overshadowed or was identified with the national interest. To historical persons most devoted to the instructions coming from St Petersburg belonged the Minister of Enlightenment Stanisław Grabowski and the chief of the Censorship Office Józef K. Szaniawski. In a way it explains the flattering tone in addressing the tsar by Feliks P. Jarocki, Warsaw University professor, in his report on the Białowieża Forest. All the same, it tarnished his good reputation as a scholar, member of the Society of Friends of Sciences and the organizer and manager in 1818–62 of the University Zoological Collection.

An extremely different attitude was adopted by a part of the officers, urban intelligentsia and landed aristocracy. They regarded it a common duty to establish secret organizations struggling against the tsarist regime. On the night of 29 November 1830 the Varsovians were awakened by the call 'To arms!' and on 25 January 1831 the Polish Sejm dethroned Nicholas I.

The village of Białowieża was described two years before the outbreak of the insurrection by the Chief Forest Inspector of the Kingdom of Poland, a German Baron, J. Brincken. He was a learned forester, who lectured at the Special School of Forestry in Warsaw and spoke fluently several languages including Polish. He found sources of information in old foresters and huntsmen. The monograph of the Białowieża Forest written by him in French and entitled *Mémoire descriptive sur la foret Impériale de Białowieża en Lithuanie*, now a great rarity, is a cult reading for anyone who attempts any serious study of the Forest's history. It is usually put

on the list of references even if the author of a study has never read it and knows but some quotations by other authors, often themselves French-illiterate. Professor J.J. Karpiński, Director of Białowieża National Park before and after the Second World War was one of the few exceptions to that rule. To help foresters and other scholars who would never have the honour of reading the pages of Brincken's work, he translated some fragments of it into Polish. Some large excerpts translated into Polish and commentaries to the Baron's book are also found in early 19th-century documents.

Let us travel in time to Białowieża in 1828, almost on the eve of the outbreak of the rising which brought about a terrible retaliation against the local population.

The vast woodland seen from afar is the Białowieża Forest. It extends far eastwards and closes the horizon on the north and south. We enter the village of Hajnowszczyzna at the forest edge,

with the former forest office and the wardens' house. The coats of arms painted on a pole, representing Pogoń (Chase) and Byk (Bull), marked the Grodno Province and the Prużany district. The forest that begins here stretches seven miles long and six miles wide, covering 25 square miles.

On the bank of the Narewka River meandering in the shadow of willows and alders, a hill rises above the village and the surrounding fields. King Augustus III had a hunting lodge built on it and his successor Stanisław August Poniatowski added two pavilions. Although built of wood, it is comfortable enough for a tired hunter. It has a great hall with two fireplaces and a lot of small rooms around it. The exit from one of these rooms leads to a hilltop with oak trees and the remnants of a fine garden, now in a state of neglect, as deserted as the buildings and with no prospects for the future. The courtyard where hunters once gathered and dog keepers waited for a signal to run the dogs no longer exists – it was turned by some villager into a fertile field.

Around the hill the village of Białowieża extends on both sides of the river. It has one church, 56 peasant cottages and an inn (in the original text called *un cabaret*). Most of the village buildings form a regular street at the foot of the hill; others are scattered haphazardly and form a minor part of the village.

Apart from Białowieża, there are two other settlements in the forest: the villages of Teremiski (20 chimneys) and Pogorzelce (22 chimneys), located near each other. The third small village, Masewa, lies at the forest edge. Around the Emperor's forest, not counting its side that borders with private estates, 24 villages are scattered, subject to the forest authorities. They are inhabited by people as modest as their dwellings and as simple and coarse as the surrounding forest. It is still not clear to which nation they belong, but they are neither Polish nor Russian.

There are 12 guard areas in the Białowieża Forest: Augustowska, Narewska, Browska, Hajnowska, Leśniańska, Starzyńska, Stołpowska, Krukowska, Okolnicka, Świetliczańska,

Podbielska and Działdowlańska. Each of them consists of a warden's house surrounded by three to five cottages of the so-called 'gardeners', obliged to work in the fields as a payment to the warden. He himself is free from serfdom, but he pays land tax and 'gives a recruit'. Each warden has 5 to 16 shooters to assist him. Together they guard the forest and its game. Most of the 118 shooters employed altogether live around the Forest, only four live in its middle: three in Białowieża and one at Teremiski. A shooter's house is marked by the coat of arms of Russia hanging above the door. Each shooter has a patch of field and meadow for his cattle next to his homestead, but he must not trespass its borders. Being state officials they wear uniforms: a tunic of plain woollen cloth with a green collar and green cuffs. Unlike simple peasants, who wear shoes made of linden bast, they wear boots. Apart from shooters, the forest management has 'beaters', or servants living in five villages of 108 chimneys altogether: Kamienniki, Kiwaczyn, Roszkówka, Czwirki and Panasiuki. Their duties include making hay for bison, participating in hunts as chasers and maintaining forest roads. During drought periods they guard the roads and make sure no traveller makes a fire in the forest. The offices of shooter and beater are hereditary, passed down by a father to his eldest son. They form a sort of 'forest aristocracy', differing in their looks, mentality and behaviour from the common serfs. Their farms look wealthy and well-tended. On Sunday and other holy days there is a table covered with white cloth in each of their cottages, with fresh butter, good bread, salt and a bottle of vodka on it to treat their guests to.

That uniformed, proud aristocracy of the administration was a guarantee of proper care for the forest game. Their high morale was confirmed by annotations made by court officials to the names of the arrested and displaced foresters who took part in the 1830 national uprising: 'of proper behaviour, but participated in the insurrection'.

The insurrection movement was on a particularly large-scale in Lithuania. In April 1831 an unsuccessful attempt to seize Vilnius was made. In June General Antoni Gielgud's and General Henryk Dembiński's units came to aid the insurgents, as well as General Dezydery Chłapowski's corps, but another attack on Vilnius failed too and in July the Polish troops surrendered their arms on the border with Prussia.

The military operation in the former Grand Duchy of Lithuania was strategically connected with the Białowieża Forest and the watersheds between the Vistula, Niemen and Pripet Rivers. The insurrection in the forest was organized by Eugeniusz de Ronco. After his successes in May, his luck turned. The commander of the Russian forces General Rosen sent eight battalions and five and a half squadrons of Volhynia and Żytomierz soldiers with eight cannons to the Białowieża region. On 6 June the troops entered the forest simultaneously in three columns: from the west, south and east. On 10 June it was all over. The camps, weapons and food reserves of the insurgents were seized by the Russians. Polish survivors hid in the wildest backwoods. Only the unit led by General Różycki managed to mislead the enemy. They crossed the Bug near Drohiczyn and fled towards the Pińsk marshes. The tsarist soldiers stationed at Białowieża. A battery of six cannons placed amid the ruins of the hunting lodge of Polish kings turned their barrels towards the Jagiellonian forest.

The tsar's historian Kartzev wrote at the end of his description of the November rising for national liberation in the Białowieża Forest: 'When the insurrection was suppressed, the former forest guards, who participated in the riots, did not return to their posts. Trials were staged, new guards were employed in a hurry and considering their number and the time, some of them were unprepared. Disorder continued for a long time in the forest.'

Eugeniusz de Ronco left the country with General Chłapowski. Antoni Szretter was caught by the governor of Grodno Mikhail Muravyov, later the infamous 'hangman' and 'executioner of

Lithuania' during the January Insurrection. Antoni's father Jakub Szretter, a warden in the Świetliczańska guard area emigrated to France together with his sons Jan and Piotr. Of the other wardens, one more emigrated, five were in Grodno prison and three were expelled from service. As 109 shooters joined the insurrection, in his letter of 13 February 1832 to the Minister of the Treasury, Count Kankrin, Muravyov demanded that all the low-rank administration and staff should be dismissed. 'The events of last year in the Grodno Province forced me to undertake tough measures and introduce police order there. The Białowieża Forest was a central gathering point for insurgent bands from the five neighbouring districts and the Białystok region. In face of that, and having conducted an investigation into the most ardent and persistent cases of wardens taking part in the uprising and shooters who showed uncontrolled and even criminal behaviour, I was forced to send them to the prison at Grodno. However, to avoid the ruining of forest management and to protect bison I have ordered the provincial forester to use the Prużany district police and start immediately to clear the forest of any vagrants still lingering there. To replace the expelled shooters, many of whom were arrested, the forester will appoint local peasants of good repute. Please kindly accept those nominations of loyal people as well as non-locals. The former guard personnel consisted of a different kind of people, dominating in the forest and hostile to the social order, of forest people with rough manners and prone to crime. This forest guard was totally depraved and last year they committed the crime of participating in the rebellion, especially that the authorities did not pay sufficient attention to their conduct. Peace will not return to the Forest and the five neighbouring districts until the whole administration consists of Great Russians and law-abiding former military men, for whom such comfortable posts in the Białowieża Forest would be a true reward.'

'Siberian Deportees' by J. Malczewski ▷

The retired general Tadeusz Tyszkiewisz had his Świsłocz estate confiscated for his participation in the uprising and the Świsłocz Forest was incorporated into the Białowieża Forest. The former forest administration and their families left for Siberia or other parts of the empire and they were replaced by new, Russian wardens. In 1839 the tsar's ukase subordinated the Białowieża Uniate parish to the Orthodox Church.

Before the uprising, a wealthy man who stole a bison was punished with a fine of 2,000 rubles and a poor man with exile to Siberia. When the new order was introduced, a huge uncontrolled poaching began. For many years game meat, including bison, was nothing unusual on peasants' – and officials' – tables.

The wolf issue was raised again in 1846, which resulted in the legal sanctioning of their extermination. District treasuries paid rewards for wolf tails and ears when brought as a proof of the killing of a predator. A document of 1852 from the Grodno Province, entitled *On Wolf Tails and Ears*, describes the difficulties with counting those parts of the animal's body. The number of paid-for tails and ears was much higher than the number of actually received ones, and the delegate sent to straighten out the inconsistency felt incompetent to specify the quality and value of tails. Most probably he was not able to distinguish the tails of various species of fauna, so they had to set up a special commission for tail counting. The commission stated solemnly that 47 tails and pairs of ears were missing as confronted with the sum of rewards paid.

In the years 1847–52 a total of 12,100 rubles were paid for killed wolves in nine districts of the Grodno Province. The future of the species looked bleak. In 1869–76 in the Białowieża Forest 285 wolves were shot. In the following years shooting them became less effective, so poison was applied. In 1877–1881, 73 predators were shot and 108 poisoned. In 1882 no wolves were shot but five more were poisoned.

Wolves which were brave enough to come to the Forest from remote lands in later time also had no chance to live long. 44 of them died between 1888–1902. Their tails and ears were counted no more.

Game Park

In the morning the Emperor visited the village of Białowieża and before noon he hosted the foreign princes invited for a hunt at breakfast. Then a line of carriages drove to the Grzybowiec range.

The hunting was arranged according to the local custom. Some 550 hectares of the forest were fenced off. Twelve roofed stands were built along a 1800-feet cutting in the forest and concealed with branches so that they looked like trees. The first stand on the left, at a distance of one shot from the west side of the game enclosure, was waiting for His Majesty. Behind it on the right, five stands were made for Their Lordships Prussian Princes Karl and Albrecht, August von Wirtemberg, Frederick Hesse-Cassel and Prince Saxe-Weimar; the next six for Kniaz Dolgoruky, Prince Radziwiłł and the retinue. His Majesty ordered the construction of an amphitheatre behind the wall of the game enclosure for the invited common viewers of the promised show.

The seats were taken and a signal to start the hunt was given. A chase began from the opposite end of the corridor. When the first furry bodies were seen among the trees, the chase stopped and forest wardens released the packs of hounds. Broken branches snapped and bison ran out to the front of the tsar's stand. The first shot was fired and the proud dweller of the Białowieża Forest fell down. It was killed by the emperor's bullet shot from the distance of 275 steps. Another bison managed to approach the tsar at 75 steps. The third animal was killed by a masterful shot of Prince Karl of Prussia. The remaining

bison, deafened by the strange noise and torn by enraged dogs, rushed down the corridor. Fire was opened from all stands at once. Bison were followed by other animals.

What a fine and picturesque view it made, really worth a painter's brush! Now a doe light as an arrow ran in front of the hunters, now a roe deer came as swift as wind. Fearful hares ran in panic between stumps of cut-down trees, trying in vain to find a hiding, while clumsy wild boars running as fast as they could made right for the middle line of fire.

Once more bison appeared at the end of the corridor and they attracted all the hunters' attention. They held the fire, saving their bullets for a trophy unheard of among European hunters for centuries. Pursued by dogs of various breeds, bison ran for a while along the corridor, while rows of gun barrels pointed at them from all stands. When the first animal reached them, a thunder of all guns swept the forest.

Bison is not easy to kill. His natural strength allows it to survive dozens of shots. Only a shot straight on the head or chest kills this huge and mighty beast at once. Six and then only five bison ran three times up and down the corridor receiving many shots on the run before the hunters could turn their attention to hares and badgers which were running about all the time. The chasers did a good job. The game was tracked and driven with such skill that the hunting arena was never empty.

The thunder at the Grzybowiec range continued for two hours. The dogs got tired first. The pack of eighty hounds were panting, tongues lolling out, and quenching their thirst in pools of blood. Then they laid down exhausted by the side of the dead or dying animals. The forest guards hurried with handbarrows to put the hunting site to order. The corridor was cleaned very quickly and the trophies were placed at the foot of the stands, so that each hunter could enjoy the fruit of his mastery and good luck.

In no time the dogs darted out again to drive roe deer, wild boars and the remaining bison into the shooting line. Among the bison was a female with a calf...

Although the order said not to touch cows with young bison, someone's unwilling shot flouted the law. The orphaned calf kept running round the hunting site till the end of the hunt with its head low and wagging its furry tail. It stopped below the stands, which greatly entertained the shooters, for small, one or two-year-old bison are very nice and graceful, especially when they run. Adult bison possess the same grace and lightness of movement. One cow driven to the enclosure jumped over a three-metre-high fence and she was followed by 30 other bison.

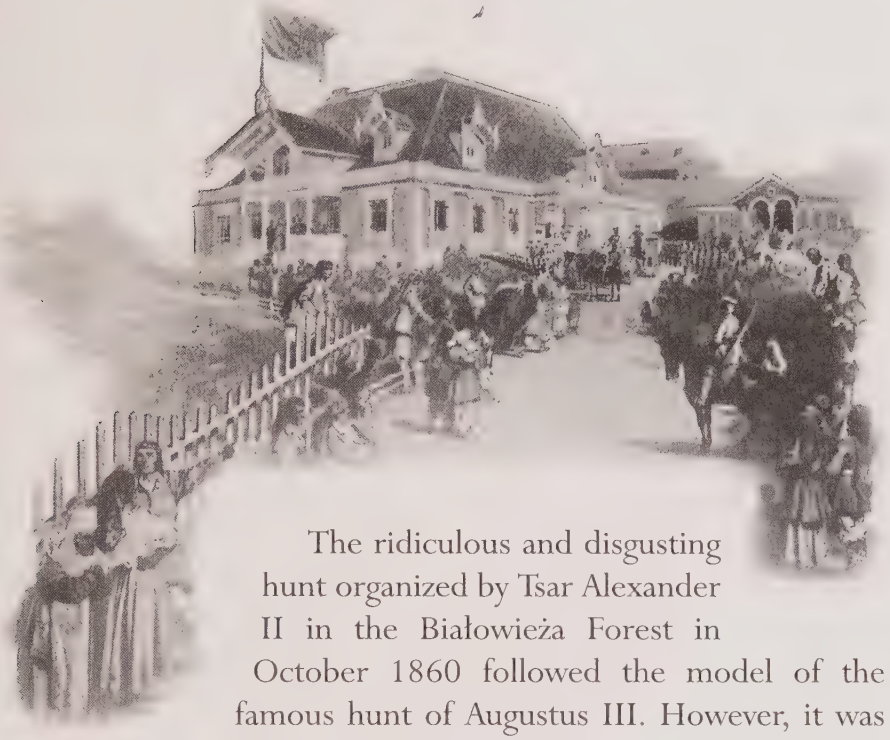
At four o'clock the emperor told them to stop hunting. On that day they killed 44 animals, including 16 bison and 4 wild boars. The host himself killed 12 bison and 3 wild boars, and 22 animals altogether.

In the village of Białowieża a table was set and a military band from Białystok was waiting. The guests cheered, drank to each other and exchanged expensive souvenirs. Prince Karl of Prussia gave His Highness a fine carved mug made of bone. Others followed with a rain of presents. When darkness fell, the company at the table saw the whole village of revellers at Białowieża gathered in their thousands on the other bank of the river. The tsar prepared a treat of vodka, beer and *pierogi* for the people. The village crowds partied till late at night, burning bonfires, drinking, dancing and watching fireworks.

Next day the hunt was resumed at the same site in the same manner. They killed fewer bison but enough of other game. The foreign guests of His Highness were particularly interested in the fine elks and wolves. The emperor killed a huge elk from 70 steps and then a male wolf. Prince Saxe-Weimar shot another one. A big male wild boar was shot at for half an hour while running through the line of fire several times. He received 40 shots before he collapsed. He seemed to be dead but in five minutes he jumped to his feet again and ran away. He was found dead in a remote corner of the 'game park' many hours later.

Finally, a great chase was launched to drive all the animals still alive from the bush. The quarry was laid in rows in front of His Majesty the Emperor, Tsar of All-Russia and Their Lordships the foreign princes.

The quarry was imposing. In two days they killed 28 bison (18 males and 10 females), 2 elk, 10 fallow deer, 11 wild boars, 16 wolves, 16 roe deer, 7 foxes, 4 badgers and 2 hares. The animals were skinned and the skins were presented to the guests. Several bison were destined for university museum displays. A preparator brought to Białowieża from the Academy of Sciences in St Petersburg set to work immediately.



The ridiculous and disgusting hunt organized by Tsar Alexander II in the Białowieża Forest in October 1860 followed the model of the famous hunt of Augustus III. However, it was meant to outshine it with its splendour and go down to posterity as the most magnificent one. My description of the event is based on the unique publication by an eye witness, a courtier named Dalmatov. His relation entitled *The Hunting in the Białowieża Forest* was published in a very small number of copies in 1861, illustrated with vignettes by the painter Michaly Zichy. Then it was translated into French and presented as a souvenir to the noblest-born participants of the event. With respect to the author I tried to keep the language, character and chronology of his description.

As usual, the hunting was preceded by many months of preparations. Peasants were ordered to build and repair bridges, dikes and roads. As the railway line ended at Bielsk Podlaski, the 50-kilometre tract to the Forest was repaired and covered with broken stone.

At Białowieża, the administration building built in 1845 for the tsarist governor of the province was turned into a hunting pavilion.

The local forester's house was chosen as accommodation for the tsar. Supplied with new stoves, decorated with fabrics and carpets, it looked comfortable. A scandalous oversight was noticed at the last moment, though: there was no tsarist flag over the roof. The Hungarian painter Michaly Zichy, who specialized in painting hunting scenes and great events and was employed at the tsarist court from 1847, came to the rescue. A piece of yellow fabric was delivered quickly by a local merchant and the artist painted a black two-headed eagle on it. All was done according to royal protocol.

The princes were accommodated in the house of the German timber merchant Zigmund. Other guests and the retinue were put up in peasant cottages.

To make a game park took the most effort. 600 ha of forest in the Grzybowiec range was fenced off. Animals were driven and carried into it for three weeks. The local forester von Sztralbov, *unterjegermeister* Ivanov, 14 officers of the forest corps, 10 inspectors, 90 wardens, 120 beaters and a crowd of 2,000 peasants patricipated in the round-up.

The Forest fauna, for years decimated by hunting and poaching, turned not enough. An order was issued to catch any possible animals in the whole Grodno Province and carry them to the Białowieża game park. Before the tsar's visit they managed to collect 117 bison, 3 elk, 14 fallow deer, 23 wild boars, 36 roe deer, 17 wolves, 15 foxes, 14 badgers and 100 hares – together only 339 animals. Several times that amount were killed during the action of catching and transporting them in inhumane conditions. 100 bison alone were driven to death during the chase.

The hunt was initially to take place in September, but Tsarina Aleksandra Fyedorovna fell ill after childbirth and the entertainment was postponed to 6–7 October. The multispecies herd waited for its execution, roaming about the game park underfed and sluggish.

'The hunting was arranged according to the local custom'. I repeat this quotation from Dalmatov and dedicate it to all exponents of the legend about good rulers, thanks to whom the rich

fauna of the Białowieża Forest has survived to our environmentally unfriendly times. It indicates clearly that such cruel shows called hunts, even though not always so elaborate, were a common occurrence in the Białowieża Forest.

Dalmatov's description shows the bumbling amateurism of the aristocratic hunters. It is ridiculous how the author tries to explain the pointless dozens of bullets shot at the poor victims running a few steps from the stands with the animals' unusual strength. We can count: at least 12 hunters fired non-stop for 10 hours at the animals, all the time driven back to the line of fire by the chasers and dogs. Still, they managed to shoot dead only 96 of the 339 collected in order to be killed. Only two of one hundred hares were hit. Even though a final gigantic chase was performed. What happened to the rest of the animals – wounded but still alive, torn by dogs, or killed off by servants – the historical records do not clarify.

The fact that the hunting was actually an embarrassing bungle did not spoil the fun of Alexander II and the German princes. Their hunt was supposed to throw the famous hunt of the Polish king Augustus III into the shade and it did so. At the entrance to the 'game park', accompanied by enthusiastic acclaim and loud

admiration, the Tsar himself planted a cedar of Lebanon (which died soon after). Others planted less noble species. On the spot, an anonymous flatterer (who accompanied the Minister of Treasury) negotiated the host's permission for the commemorating of the hunt with a huge, four-tonne sculpture of a bison on a high plinth, bearing a suitable inscription on its four sides. On his own initiative, the Tsar ordered 'to save forever the governor's house sanctified by the ruler's visit, under the name of the Emperor's Hunting Pavilion, and always to supply the game park with a sufficient number of game representative of the Forest'. To be killed, of course.

The wishful thinking of the butcher in an emperor's crown! If any memory has survived, it is that of the equally infamous hunting of Augustus III, filtered into the public consciousness by the obelisk at Białowieża. The Hunting Pavilion today houses the Ecological Education Centre of Białowieża National Park, a settlement of Zwierzyniec (Game Park) was established at the site of the Tsar's game enclosure, and the nearby reserve runs the Bison Breeding Centre. Even the natural-size bison monument, erected to praise Tsar Alexander II, did not stay in place. It was carried away to Russia during the First World War, returned to Poland in 1921, for a short while it stood in the courtyard of the Royal Castle in Warsaw, and finally in 1928 it was removed to the summer residence of the President of the Republic of Poland at distant Spała near Tomaszów Mazowiecki, where it still stands. Let it stay there for good, for the Białowieża Forest does not like it at all.

The Insurgents of 1863

When dusk fell, two bent silhouettes sped across the courtyard. An insurgent patrol was making sure no enemy was hiding in the manor. The flawless whiteness of snow and narrow paths trodden in it to the well and farm buildings showed that the peaceful life of the inhabitants of an out-of-the-way settlement was not spoiled by the Muscovite invasion.

The patrol went away as quietly as it came. An hour later the snow crunched under the feet of many armed men. They were quartered in peasant cottages, barns, servants' rooms and in a smithy – they only needed a roof over their head and protection from the frost. The lord of the Dołubizna manor, Śnieżko, ordered his servants to get up, make a fire in the kitchen stove and cook a meal. He invited the commanders to supper with him and to stay for the night in the manor house. They sat in a spacious hall, opposite the heat-emitting fireplace filled with burning logs: Rogiński, Lewandowski, Rylski, Sągin and some elderly soldiers.

Their faces showed depression and bitterness. They were defeated at Nemirów and two days later at Siemiatycze. The Polish troops chased by General Nostitz had to flee to the Białowieża Forest. They were in a mood to find who was guilty rather than discuss matters rationally. Rogiński suggested that they march to Lithuania and ignite the flame of insurrection there so great that the Tsar would not be able to put it out. Lewandowski wanted to go back to the Kingdom, i. e. beyond the Bug River. There was neither agreement nor unity of action. Finally, Lewandowski, guided by his anger and hurt ambitions, relinquished his position as chief commander. His resignation was

received with eagerness and Rogiński was chosen to take command. Though quite young and lacking experience in war strategy, he showed great patriotism and courage. White-headed Lewandowski felt humiliated to go under his command.

Next day the insurgents set out to Lithuania. A local border guard guided them. He led a group of snipers at the front, whose task it was to hunt some animals for meat before they ran away scared by the marching soldiers. As soon as the last man entered the forest, the march was hindered. Lewandowski stopped to announce that he was not going to Królowy Most. Instead, he was coming back together with his men to the Crown, where he would be appreciated as a commander...

The growing noise and chaos among the hesitant soldiers was cut short by the loud but calm voice of Rogiński. He would accept such a move, though it damaged and weakened their troops, on the condition that they separated very quickly and efficiently. He invited all, particularly the young to follow him.

150 soldiers went with him: the Lithuanians from the Siemiatycze region with Rylski and Sągin and the Poles who fought by Rogiński's side from the first night of the uprising. They took two wagons: one loaded with ammunition, the other with a trunkful of silver captured at Janów – a treasure worth thousands of rubles, for which they were going to buy weapons and food during their hard journey to Lithuania.

During the short time of confusion the border guard disappeared. He must have gone back with Lewandowski. Well then, they would follow forest maps, where all the divisions were marked with the same numbers as poles in the forest. To mislead Nostitz, instead of taking the shortest way to Lithuania, Rogiński led his units along side roads through frozen swamps and the wildest backwoods south of the Królewski Most (Royal Bridge) guard post. Fortunately, it started to snow and no one would follow the insurgents' tracks. That evening they camped on the edge of the forest. The young commander reorganized his

'An Insurgent from 1863' by M. Gierymski ▷

units, appointed new officers and divided soldiers into sections. They received their scanty food rations – no trace of animals was seen through the whole day's march – and the camp slowly became quiet. The snow was falling, covering the men, unaware of the coming disaster, with its blanket.

At the Dołubizna manor snowflakes melted before they touched the ground. The fire of the burning manor house lighted up the February night. The tsarist army punished the Poles for their help to the insurgents.

The border guard who left Rogiński's unit, found the Russians stationing at the village of Zubacze and reported to them about the rebel in a Garibaldi red shirt, who was marching across the Forest to Królowy Most carrying two wagons of silver. The forest guard confirmed it was true, so a Russian general rushed to pursue the rebels with two infantry battalions, a Cossack unit of a hundred men and two cannons. Although they had to hurry, the Cossacks were allowed to pay a visit at the Dołubizna manor. They made quite a party there with Mr Śnieżko and his relatives! No one was left alive in the burning ruins...

Day was dawning when a simple man named Tołłoczko ran into the insurgents' camp. He called from a distance that the enemy was coming in great force. It was too late to organize defence. The Russians had already surrounded the unit and cut off the only way of escape through the bridge over the Leśna River to the wildest backwoods. The insurgents left the wagons and under a rain of bullets forced their way to the safety of the thickest bushes. Behind them on the blood-stained snow their fifty companions lay dead and eight were caught alive by the enemy. Soon they heard a massive explosion and the cries of wounded Russians. Thinking the box with gunpowder contained silver, they tried to open its lock by shooting at it.

The snow kept falling all the time.

The military operations of the January Insurrection in the Białowieża Forest were weak and rather ineffective. The tsarist repressive measures after the fall of the uprising of November 1830 included arrests, deportations to Siberia, confiscation of property and the exchange of almost the whole Polish forest administration for loyal, mostly Russian officials. These measures brought lasting effects. In 1863 the insurgents could not expect any significant support neither from forest guards nor from the local population. There were some exceptions, as it is indicated by a long list of 'political criminals' convicted in the Grodno Province in 1863–1864. The actions took place mainly near the Warsaw-St Petersburg railway line and postal routes. The Forest was but the last resort, where insurgent units found temporary shelter having lost open-field battles with the enemy, who far outnumbered them.

On 7 February 1863, the second day of the battle of Siemiatycze, the joint units of Roman Rogiński, Władysław Cichorski and Walery Lewandowski were defeated by the Russians and the insurgents had to flee to the nearby Białowieża Forest. Rogiński marched along the road to Wysoki Litewski; Lewandowski, Bronisław Rylski and Stanisław Sągin followed him. They were pursued by General Ivan Nostitz, who defeated Rogiński at Niemirów on 4 February.

After the disastrous weakening of the troops by Lewandowski's departure, the betrayal of the forest guards and the tragic fight on the Leśna River on 11 February, when 65 people were killed, late in the evening the unit reached Szereszewo on the eastern edge of the Forest. Rogiński wrote in his memoirs that on their escape from the enemy the insurgents managed to carry some money with them. 'The whole village came to feed us and the Jews supplied the rest. When I told them I was paying cash, they fetched us everything we needed most: a lot of gunpowder, cartridges and percussion caps for guns. I bought 400 pounds of powder alone.'

At Szereszewo they decided to launch an attack on Prużany, where '250 soldiers stationed in brick barracks'. They wanted to 'mark their presence and take revenge for Królowy Most'. Their attack on 13 February at dawn surprised the military post completely and the insurgents seized their weapons, ammunition and 12,000 rubles.

In the first days of March the insurgent unit was crushed at Turów. Rogiński and the remaining handful of his companions roamed the vast Pińsk marshes until they were caught by local peasants led by an Orthodox priest, bound and handed over to the Russians. At Pińsk, Rogiński first met his adversary General Ivan Nostitz face to face. Nostitz himself escorted him via Brest to Warsaw, where he was taken to the Citadel prison. He said nothing and betrayed no one under interrogation and was sentenced to death as a rebel caught with arms.

At that point something improbable happened: the general himself saw to it that the death sentence was changed into deportation to Siberia. It turned out that during his pursuit and struggles with the 20-year-old heroic Polish insurgent the Russian commander came to respect him so much that he saved his life. They must have also befriended each other during their long trip from Brest to the Warsaw Citadel. When 35 years later Rogiński returned from Siberia, he directed his first steps to Ukraine, where the elderly and retired General Ivan Nostitz lived.

Walenty Lewandowski after his separation from Rogiński fought in Podlasia. On March 24 he was imprisoned and deported to Siberia, from where he returned in 1877. Władysław Cichorski died in exile. Bronisław Rylski and Stanisław Sagin died on 15 February 1863 at Rzeczyca near Prużany.

During the January Insurrection other insurgent troops also visited the Białowieża Forest. After the battle of Waliły late in April Onufry Duchiński's unit with chief of staff and from 15 August chief commander Colonel Walery Wróblewski, in civilian life a graduate of the Forest Institute in St Petersburg, hid in the

forest. The insurgents patrolled the forest and its neighbourhood, now winning, now loosing in skirmishes with the enemy, whom they confronted at the settlement of Zarkowszczyzna on 21 June, at Porozowo on 7 August, at Ciemlewo on 8 and at Głęboki Kąt on 30 of the same month, and at the village of Rudnia on 12 September. On a visit at the Czadziel settlement Wróblewski tried some Białowieża shooters accused of collaborating with the enemy. Three of them were found guilty and hanged. Four farms were burnt. In mid-September the whole Forest was seized by the Russian army, so on the 18th of that month Wróblewski dismissed his unit and went to Warsaw. Then he travelled to France, where he fought as a general at the barricades of Paris.

The tsarist authorities made the participants of the insurrection pay a heavy price. First, manors were burnt and their inhabitants murdered by the Russian and Cossack troops; then property was confiscated and the owners were sent to Siberia, like for instance Wincenty Protasewicz of the Planta estate on the northern side of the Forest. Also the Roman Catholic Church paid for its support to the insurrection. On 22 July 1866 St John the Baptist's Church at Narewka was changed into an Orthodox cemetery chapel, the church at Jałówka was closed and the fate of the Narew church was uncertain. On 27 May the cornerstone of St Alexander Nevsky's Orthodox Church at Narewka was laid. Ordained in 1867, today it is St Nicholas' Church.

An Adventure in the Forest

At noon it was already clear that another storm was coming from the direction of the Ladzka Forest, as it had happened frequently within the last few days. The air was so sultry it was hard to breathe. Through the humid, steamy air the sun looked dim in the sky and the distant sound of thunder played in counterpoint to an orchestra of thousands of grasshoppers and crickets.

Nearby the Chorosza Dubrowa range two botanists, Professor Karol Drymmer and his young assistant Franek Błoński, continued their work in spite of the heat. They had only a fortnight left before the end of their expedition and so many forest corners were still unexplored. Surrounded by swarms of mosquitoes and flies, which were attracted by the scent of warm and sweating human bodies, they were kneeling over the green carpet of the forest floor. Around them in neat order lay spatulas, knives, magnifying glasses, boxes of pencils, notebooks, folders for specimens and botanical guides helpful in identifying plants. Franek, who was so fascinated with mosses and liverworts that he hardly saw anything outside them, was just cutting a tiny plant delicately and with reverence with small pincers and putting it in a glass tube, when his guru raised his head for a while to return from the realm of scientific discoveries to the real world. It was high time to do so.

An ominous dark ridge of clouds inevitably coming from the west was already visible in a gap between the trees. The distant rumble of storm was getting nearer until it changed into sharp thunders rolling over their heads. They saw a flash of lightning. They should not wait any longer. Their lodging at Browsk was almost three miles away and the route was not that easy...

Carrying heavy rucksacks they made the shortest way across the dark forest. Suddenly, the darkness was lit up. They heard a hiss and a deafening crack of thunder and a nearby old aspen crumbled into pieces before their very eyes. A two-metre long sharp piece of white wood splintered from the trunk flew like a javelin to stick in the ground a few steps from the terrified botanists. The wind started to blow and the sky opened its locks pouring out streams of water onto the poor men, threatening their precious notes and collections with destruction.

During a storm one should not shelter under a high tree, so they ran toward a group of young spruces that stood in a distance. Their branches painfully hit their faces when they struggled to get in, to a different world where the noise of thunder, the wind blowing and raindrops lashing the canopy of needles was only heard from outside. They slowly crouched their way between the dense spruces till they found a patch of ground dry enough to squat on and waited for the weather to improve. To kill time they discussed liverworts.

At last it stopped raining, the thunder subsided and the professor said they could resume their march home. Having left the spruce haven they went in silence, passing by bushes dripping with water and muddy puddles. The rustle of raindrops blown by the wind from treetops and the wet moss underneath muffled the sound of their steps. Night was descending. The last clouds vanished behind the horizon escorted by the golden and pearly light of the setting sun. The forest became thinner and they entered an open oak wood.

Amid the spacious colonnade of age-old trees which held firmly to the ground with their massive, knotted roots, on the velvety clean grass washed out by the rain a herd of fallow deer was walking like in a princely park. The deer did not smell the newcomers, who hid behind trees. It enabled them to come so near the grazing animals that they could count the light spots on their ginger bodies. They stopped behind a huge oak trunk clinging to its rough bark and stood motionless drinking in the extremely beautiful view.

'Forest' by I. Shishkin ▷

The herd was led by a strong buck with a thick neck and well-developed dewlap. His head was crowned by a pair of long, wide-spreading and flattened antlers, still covered with a soft skin. The tines and branches were already finely shaped. Its massive body resting upon rather short legs was covered with chestnut brown hair, lighter on the belly. The back and rump had white spotting, with white patches on the tail and beneath, framed in black fur. At a safe distance from the leader eight males of various size and coat colour were grazing. Most of them were young fawns with barely shaped antlers, but one buck was pitch-black from the top of his antlers to the hooves hidden in grass. Some dark brown spots on his body were barely visible.

Taking advantage of the absence of flies after the rain, the deer were fully absorbed in browsing juicy grass, picking up aromatic herbs: violet, woodruff, Solomon's seal, St John's wort, globe flower and foxglove, as well as munching green shoots of hornbeam and hazel. The two youngest deer, judging from their antlers, walked away from the herd and laid themselves down close to each other by a spindle tree. Like very close friends, they tenderly nibbled and licked each other.

The watchers were about to go quietly away not to disturb the forest idyll, when the whole mood changed abruptly. The grazing bucks raised their heads all at once, their bodies stiffened and tails raised as a warning sign, and the whole herd darted away. That very instant a fawn coloured furry animal with a dark stripe along its back and spots marking its huge paws jumped on the two deer, which were just standing up. The attacked deer fled to the forest with a lynx on its back. The amazed botanists heard a short bleat of the killed animal...

On 19 June 1886 the minister of the Emperor's Court informed the minister of the State Treasury that His Majesty Alexander III (1845–1894) expressed his wish to incorporate the Białowieża and Świsłocz Forests into the Tsar's family estate. In exchange the Tsar intended to donate his land in the Orłowo and Symbirsk provinces to the Russian state. It took two years to settle all the details and prepare the required documents. On 18 September 1888 the Tsar became the sole owner of the Białowieża Forest. A new building at Białowieża (today the Natural Forest Department of the Forestry Research Institute) housed the newly established local administration of the tsarist Belovezh estate.

The tsarist hunting grounds had no equal in the whole of contemporary Europe. The Białowieża Forest, situated in the middle of the Grodno province, covered the northwestern part of the Prużany district and the southwestern part of the Volkovysk district. Its length from north to south amounted to 43 km and its width was 36 km. The total length of its borders was 333 km. On the west it bordered the former Bielsk Forest, then already completely deforested, on the north – the Ladzka and Świsłocz Forests, separated from it by the Narew River and village meadows. On the east about 43-km wide, inaccessible swamps and marshes with some scattered woodlands adjoined the Forest and on the south were governmental and private forests. The survey completed in 1890 assessed the area of the Białowieża Forest administrative unit at 102,057 ha, 85.9% of which was forest.

In the middle of the forests, on a bright clearing of 2,000 ha the village of Białowieża and its satellite settlements was located. West of it three smaller clearings contained the old Mazurian settlements founded by Tyzenhaus: Pogorzelce, Terremissy (Teremiski) and Budy. Altogether 1,750 farms in over 120 villages, settlements and 'colonies' lay in the Forest.

The tsarist ownership of the Białowieża Forest brought another sad period in its history. The Forest was meant to be a store full

of game ready for a visit of the Chief Hunter at any time. No one considered the forest's capability of nourishing all those animals. Although systematic logging was eliminated, the number of big plant-eating game of various species was enormously increased. That deprived the forest of its power of self-renewal, its most effective weapon in the struggle for survival. Anything that managed to sprout from seed was immediately devoured.

The fallow deer was one of the species introduced to the Białowieża Forest. It originated from the Middle East, where it was multiplied in antiquity around the Mediterranean Sea and other mild-climate areas. In the 19th century it was bred in game enclosures and palace parks of the whole Europe, including Poland, for its beauty, quiet nature and as an attraction for noble hunters.

In the 1830s fallow deer were kept by Castellan Bniński at the estate of Turna near Brest and at the estate of Count Tyszkiewicz at Świsłocz.

Tsar Alexander III

To celebrate the Tsar Alexander II's infamous hunting of 1860 fourteen fallow deer were brought to the game park at the Grzybowiec range from some unknown locality. Ten of them were killed, so the herd had to be replenished. In 1864, 11 hinds and 4 bucks were purchased from Count Grabowski. In 1870 the herd numbered 30. Around 1875 a lynx jumped into the pen and killed ten deer in one night. At that time some dispersed deer from Count Tadeusz Tyszkiewicz's breeding farm were met. In 1888, when the Forest was taken by the Romanov family, the game park was inhabited by 40 fallow deer. By the Tsar's order they were well cared for and fed properly, so they started to multiply. In 1892 they amounted to 75 individuals, 25 of which were set free. 44 new fallow deer were imported in their place. A year later 90 deer lived in the pens. As if that were not enough, another 60 hinds and 10 bucks were brought from Skierniewice, while 45 deer were set at liberty. In 1896, under the rule of the successive Tsar, Nicholas II, the herd in the enclosure reached a record number of 139. Finally, in 1899 all gates were opened and the deer were set free, because the last Tsar preferred to hunt in 'natural' environment.

The fallow deer took a liking to the Białowieża Forest. In 1901 they amounted to 740 specimens, including 113 calves. The animals quickly learned to live in the wild. They were strong and had fine flattened antlers. Some white and all-black individuals appeared, but regarded as 'anomalies' they were quickly eliminated.

Some people were aware that the permanent existence of several hundred fallow deer posed a threat to the Forest. 'This animal, a substitute of red deer, being omnivorous and terribly voracious, brings more harm to the forest than all other members of the deer family together. To keep them in great numbers just to satisfy a passion for hunting means to sacrifice the forest and other animals, for nothing else but fallow deer will remain', alarmed G. Kartzov, the author of a major work entitled *The Belovezhskaya Forest*, in 1903.

In 1910, when the number of fallow deer had reached 1,402, a plague spread among the plant-eating animals and decimated their population. Then the First World War started, bringing hordes of Russian and German soldiers.

Only a memory remains of the fallow deer, as well as the lack of young trees in the forest.

Two botanists made a scientific expedition to the Białowieża Forest from 19 July to 16 August 1888. They were Professor Karol Drymmer (1851–1937), one of the best know botanists in

A fallow deer from the Tsar's breeding farm

the Kingdom of Poland, and Franciszek Błoński (1867–1910), the author of descriptions of mosses and liverworts, who later worked as a physician at Spiczyńce in Ukraine. A violent storm described in this chapter's tale raged over the Forest on 2 and 3 August.

Drymmer and Błoński carried out phenological research to determine the time of flowering of herbaceous plants, which as they observed began later than in other parts of Poland. The result of their expedition was a register of 38 plant species giving the exact dates of the first flowers. That summer the scientists also tried to find mistletoe on oak trees. In this they did not succeed, despite announcing among forest wardens, shooters and peasants that a high reward was waiting for the finder of such a rarity.

As early as in 1888 Professor Drymmer claimed that spruce was replacing pine in the Białowieża Forest. It may be the oldest scientific report on the phenomenon which is observed nowadays.

An old spruce's trunk

Spruce came to the wet-ground forests of Białowieża from central Russia together with the climate cooling in the so-called Sub-Boreal Climatic Interval 4,500 to 2,500 years ago. The contemporary spruce zone is divided in two regions: the southern one comprises the mountains and foothills of central and southeastern Europe; the northern one – the whole Scandinavia, Latvia, Estonia, Lithuania, western Russia and Belarus.

Between these two regions a wide belt of forests extends, especially in the Polish lowlands, where spruce is quite rare.

It is believed that the process of spruce growing in the pine woods of the Białowieża began in the 1820s. After the massive fire in 1811 peasants were strictly forbidden to burn the brushwood in spruce forests, which they had done for centuries to improve the forest pastures.

Today spruce grows nearly in every forest habitat, forming homogeneous stands, called boreal spruce. In mixed coniferous forests they dominate along with pine, oak and birch, while in wet-ground forests, fens and marshy meadows they form admixtures. They are rare in open oak woods, dry cup-moss forests overgrowing a few dunes and marshy coniferous forests. Spruce owes its success to its expansiveness and the help of man. For hundreds of years he chose old deciduous trees and pines for timber. Spruce seedlings immediately overgrew the remaining gaps in the forest.

As compared with other trees in the Białowieża Forest, spruce breaks all records of height. In the past, 55-metre high spruces occurred. They grew in low wet-ground forests and had ideally straight trunks, sometimes more then 4.5 m in circumference. Today such 250- or 300-year-old giants are scarce, as nearly all of them have been changed into boards. In the Polish managed part of the Forest there may be about fifty of such Methuselahs. Some more have survived in the strict reserve.

The Białowieża Forest is a mecca for scientists, attracting motorized naturalists from all over the world. In the past ages it was visited only occasionally by the bravest researchers. It required a lot of strength and enthusiasm to reach it from the 'civilized' world, then facing days of walking through deserted woods, swamps and lairs of wild animals, where piles of fallen trees

Title page of G. Kartzov's 'Belovezhskaya Forest' from 1903 ▷

Бѣлоѣзерская Пуща.

blocked the way, in summer starving mosquitoes kept molesting a wanderer and in winter tree trunks cracked from the frost.

The father of Białowieża Forest studies was a Frenchman, J.E. Gilibert, invited to Białowieża by A. Tyzenhaus. He lectured in natural history at the University of Vilnius and wrote the work *Indagatores naturae in Lithuania seu opuscula varii argumenti*, published in 1781, which contains a handful of information about the Białowieża Forest. Then followed studies by the Chief Forest Inspector of the Kingdom of Poland, J. Brincken (1826), Bojanus (1827) and Stanisław Batyst Górski, who was the first Polish botanist to penetrate the Forest in 1822 and 1823, still as a student. Botanical descriptions are found in the works by E. Eichwald (1830), two botanists F. Błoński and K. Drymmer, A. Ejsmond (1889), J. Paczowski (1897) and Z. Gloger (1907). In 1902–3 a work based on the forest management studies by N. Genko was published. The thick, beautifully illustrated book *The Belovezhskaya Forest* by the Russian G. Kartzov, published in St Petersburg in 1903, offers a mine of information on its history and environment. 19th-century researchers were most interested in the superbly rich plant life and, of course, in bison. The threatened species was first to be described in full by Kajetan Wróblewski, an expert on the subject and a trustworthy scientist, in his work published in 1927.

During the First World War German scientists took hold of the Forest. They made a register of vascular plants and described a few groups of insects and arachnids.

After the war the whole Białowieża Forest lay in the territory of the revived Republic of Poland. Due to the efforts of Polish scientists, in 1921 the Rezerwat (Reserve) division was excluded from timber production. It later became Białowieża National Park. The State Forest Research Institute established in 1930 was the germ of the present Forestry Research Institute and the oldest Białowieża research station, the present Natural Forest Department. In the period between the two world wars, among

a growing number of botanists, zoologists and foresters, Professor Józef Paczoski, doctor honoris causa and National Park manager, occupied the most prominent position. He planned and initiated complex natural studies and created the foundations for the typological classification of forest habitats. His monumental work *The Woods of Białowieża* has not lost its validity to this day. He was the first to start collecting specimens of vascular plants of the Forest for a herbarium. By a tragic coincidence, almost the whole herbarium as well as his entomological and ethnographical collections were burnt together with the tsarist palace on the day the occupying forces withdrew from Białowieża. A new herbarium of vascular plants and Bryophytes, collected and supplemented for decades by Professor A. Sokołowski, is kept at the Natural Forest Department of the Forestry Research Institute at Białowieża.

Otto Hedemann also deserves great credit for his research. The descendant of a Danish engineer who worked in Polesia, he wrote a number of studies on the history of northeastern Poland and Lithuania, including the highly investigative work *The History of the Białowieża Forest in Poland Before the Partitions*, based on authentic documents.

After the last war, from 1945 Białowieża National Park was subject to the local branch of the Forestry Research Institute. Both establishments were directed by Professor J.J. Karpiński, who continued the work of his great predecessor and organized a number of fundamental studies for learning the functions of forest communities. He also reconstructed the zoological and ethnographical collections of the Białowieża Natural Museum founded in 1921 and destroyed during the war.

Professor Karpiński held his position till 1952. In the same year the Botanical Station was set up on the initiative of the great botanist W. Matuszkiewicz. Initially it was subordinated to the Polish Academy of Sciences and from 1962 as the Geobotanical Station to Warsaw University. The youngest scientific establishment, the Polish Academy of Sciences Mammals Research Unit,

was set up in 1954 thanks to the zoologist Professor A. Dehnel. Within two decades following the last war some 1,300 works devoted to the Białowieża Forest were published. Their authors came both from the local research centres and from distant universities and institutes at home and abroad.

Within the next 30 years the research was so intensive that examples from the Białowieża Forest made their way to every reference book on forestry, botany, zoology or biogeography.

Though the last European patch of natural forest has already been analysed in every detail, it still arouses enduring interest. With the development of ecology, the number of scientists from Poland and other countries penetrating the forest backwoods keeps growing every year. It may get out of control. On the one hand, the scientific circles put a lot of effort into the propagation of the idea of environmental protection and understanding the laws of nature, but on the other hand, by exploiting their very workshop – the Białowieża Forest – they destroy it.

It is absolutely untrue that every graduate from natural studies employed in a scientific establishment deeply loves animals and plants and finds it his or her life mission to protect them. Such people are a minority. I know some people in the business who treat nature as an instrument for making their own career. I know researchers who become interested in living creatures only when having them under microscope or as pinned specimens. I also know scientists who hate and fear all animals, wild and domestic alike.

Irrespective of their attitude, every researcher with a degree can launch any project at any time in any national park or nature reserve, concerning any species of plants or animals. Any method can be used, provided it is skilfully motivated. There are no essential problems with getting permission, as the decision is usually made by the colleagues in the business who 'know the subject', carry out the same kind of research and are supposed to guard the country's natural environment.

It is no accident that the Environmental Protection Act states that 'the Minister of the Environment, Natural Resources and Forestry can in exceptional cases give permission for obtaining protected plants and animals and for other actions subject to restrictions, prohibition or order'. The decree on species protection allows, among other things, to kill, catch, keep and scare away animals within a specified area and time for scientific purposes, as well as to take bird nests and eggs, to carry abroad alive or dead whole animals or their parts and to make lab preparations. A national park director in consultation with his scientific advisory board decides to what degree the park environment can be interfered with. Thus naturalists have a tendency to treat the areas legally protected from other people as their own experimental fields and the creatures living there as their research material always at their disposal.

Unfortunately, not every researcher matches their great predecessors in sensitivity or personal and professional ethics. Some of them would not give up quick and easy but harmful methods of research for higher ideals. Some would satisfy their own curiosity and ambition at the cost of living beings. They cannot or do not want to predict the results of their carelessness in dealing with nature.

Today, in the age of sharp competition for money to finance research, a large group of researchers shamelessly, and backed by scientific circles, turn the strict reserve of Białowieża National Park into an experimental ground. They drive off and scare big plant-eaters, cut tree branches to see their way better, tread the soil in unique forest habitats and damage the undergrowth, litter, spoil and poison the forest by marking trees with paint, metal and plastic. They bore deep holes in ancient pines, oaks and ashes, which are monuments of nature, thus introducing pathogenic fungal and microbial spores inside them. Quite legally, they pick up plants and kill animals.

Biotelemetric studies are a drastic form of ecological brutality. Legally protected predators are caught in nets and traps in the

whole Białowieża Forest including the strict reserve of Białowieża National Park. Senders are attached to them and their movements and behaviour are followed from a distance until the distressed animals die. In the 1990s such was the fate of the whole population of the magnificent forest animal – the regal lynx.

It is still a subject of dispute whether such studies are harmful. They involve the catching of a predator alive by means of hurtful devices, its incapacitation by force, the use of drugs to put the exhausted and terrified animal to sleep, attaching to its body a collar with a set of batteries, plastic and metal appliances and apparatus with sticking out rods of antennae, which for months day by day send continual radio signals right next to the animal's brain. The monitored animal is constantly tracked. Does it impair its health, hunting skills, the efficiency of its senses of smell, hearing and orientation in space, which ensure its safety, so that it can for example avoid a steel trap? Any veterinarian or ethologist, who studies animal behaviour, will no doubt answer yes.

Protests against such drastic measures applied by some ecologists are spreading around the world, but so far with no success, including in Poland. After a short break in the studies, the remaining Białowieża lynxes, which could offer a chance to rebuild the population, were again hit by researchers. In the spring of 1999 they obtained a permit impossible in any other country: to collar all individuals. According to the estimates of the Provincial Nature Conservator, no more than 30 specimens of the dying-out species live in the whole territory of the Podlaskie (Podlasian) Province. This decision by the highest environmental protection authorities means a life sentence in collars for 35 lowland lynxes (15 in the Białowieża Forest and 20 in the Augustów and Pisz Forests).

This is frightening! In the 21st century the 'holy cows' – the throngs of scientists from all over the world treading the forest environment – may become its major threat. Human inventiveness and curiosity, the drive to experiment, career-making ambitions and ruthlessness have no limits. They are eternal and occur

in every profession. The name of the Białowieża Forest National Park will be a magnet as long as authors consider their work more impressive if they mention it in the title. The Forest and its animals will always be in vogue.

The Hunting Farm

Białowieża was still deep in sleep when a narrow trail of smoke appeared over Arkady Buszko's cottage. Similar trails appeared over other thatched roofs. It was a clear sign the game wardens were getting ready for departure. Dog barking was heard in the frosty air, stable doors creaked, snorting horses were taken out and sleepy drivers cursed in the darkness. Empty sleighs left farm buildings one by one, ringing their jaunty bells and going straight to the road leading through the Białowieża villages of Stoczek and Krzyże. On their way the wardens were joined by their helpers. In a while a long line of sleighs pulled by horses left the clearing and disappeared into the woods. There, they all took their own paths and were gone to their duties.

Front of an old cottage with Podlasian-style windows

Some wardens, including Arkady Buszko with his assistant old grumpy Sergey, as usual turned their horses towards the Grzybowiec range. Here, on a small elevation near the game park, a dark shed stood and next to it was the snow-covered roof of a large shelter in the ground. The Tsar's *oberjeger* was waiting for them tapping his feet from cold and impatiently jangling a bunch of keys.

It was already light when the first sleighs left the storehouse. The horse, a simple but strong draught animal, dun-coated and furry, with a tangled mane, either knew the road well or was perfectly led along deep ruts in the snow. It bravely pulled the heavy sleigh loaded with oats and potatoes and a big stack of hay on top of it. The driver put the reins away to warm his freezing hands in the sleeves of his woollen coat. His old companion, who remembered the times of the January revolt, when the rebellious Poles rose against His Highness the Tsar, smoked some shag and started to talk about how many things changed when the young Emperor-*Batyushka* became ruler.

'Formerly', he said, 'no one cared too much about the animals; it was enough to have just a few bison, some deer, wild boars and a herd of fallow deer; and since only a fool would waste fodder throwing it to wild beasts, peasant cattle were well-fed with pilfered oats. Though very few animals were in the forest, one thing or another could always be caught in a loop. Then, maybe seven winters ago, everything changed suddenly. Tsarist officials came to the Forest – each of them more important than the other – and began to set up a 'hunting farm'. Conceited they were and suspicious of the locals! Pish!' The old man spat and went on grumbling, 'You throw tons of feed in the forest everyday but you can't take a single grain or a small sheat home after work. The like of him in a sheepskin cap, he stands stamping his feet in Russian leather boots, opens the storehouse padlock himself and you are hardly out of the bush when he comes and peeps inside your sleigh if you haven't stolen a potato or a sheat. Pish! Those *oberjeger* rascals!'

Arkady kept silent not to interrupt the old man. He listened to the same story every morning and he knew the man would never change

his view, however long he would explain it to him. Arkady was from the young generation, mostly educated by the new Forest administrator, Kolokoltzov. He understood well the goals and tasks of the hunting economy. He knew that good care for animals meant giving them freedom, space and proper nourishment. When well fed and free they looked fine and multiplied fast, which made the Tsar's hunting nobler and brighter. But the forest was no longer able to feed such a number of game, so they had to see to it that the feeding racks placed round the Forest were filled with animal feed and hay from September through April.

They had not far to go. Soon a small clearing appeared among trees – old open forest on one side and young spruce forest on the other. Hearing the bells jingle, a pack of wild boars noisily ran out to the clearing. Fawn coats of roe deer were visible further amid tree trunks. Used to the sight of their food providers and a horse, they did not run away. They only ruffled up their snow-white hair on the rumps and cocked their ears, big and framed in black, while their dark, doleful eyes showed cautious interest. The herd of 14 deer included hinds with

big fawns born the previous year and a few stags. One of the stags was quite exceptional. Over his narrowed muzzle and wide forehead he carried high, heavily branched antlers, at this season still in the process of growing and covered by fresh, soft and furry skin. His small but awfully strong and agile body was supported by long legs. The smooth fawn winter coat and the proudly raised head left no doubt that he had Siberian blood in his veins. It really paid to carry animals packed in boxes from the faraway taiga, to have such trophies in the forest within a few years.

In the middle of the clearing empty feed racks stood, covered with a strong board roof, with a trough for oats next to it and another one containing clay mixed with salt. Around it four bison were walking and rubbing their bodies against tree trunks.

'There's news!', cried Arkady, 'The Tsar's cattle visited our feed rack for the first time this winter. We have to report to the *oberjeger* on our way back, so that he gives an extra ration of feed tomorrow. Today poor roe deer must do without food – the bison won't let them touch it.'

The small furry draft horse did not even prick its ears when they drove the sleigh in the middle of the bison herd. The bison reluctantly stepped aside uttering low grunts and the men could start their job. There was an unwritten agreement between them that Arkady worked with the fork and carried sacks of potatoes, while the old man went

around the forest and inspected the animals. With his experienced eyes he checked if they were in good health and how the young and their antlers were growing.

But this time he stayed a bit long at the sleigh, mending the harness and giving the horse some hay. Then he waved his hand with determination and put some oats to an empty sack, hung it on his shoulder and went toward the herd of hungry roe deer. Arkady, who was normally so quick at noticing things, this time appeared not to see anything. He was just going to the other side of the feed track with a forkful of hay. Neither did he see a rolled sack under old Sergey's arm, when he was coming back ashamed of his own kindness. Accidentally, Arkady was just looking the other way...

When they finished their job, the light sleigh hastened home with a merry jingle of the bells. Both men sat in silence, very pleased with themselves.

For years after the fall of the January Insurrection no one cared about the Białowieża Forest. The tsars satisfied their passion for hunting by killing the animals (mainly bison) bred in the game park, for which only 3,000 rubles a year were assigned. In place of wild herbivores at liberty thousands of local cattle grazed on forest undergrowth, while their owners cleared the forest of young lindens, willows and hazels, which used to form the understory of old trees. Whatever game remained in the forest, it was decimated by the severe winter of 1887–1888. Only 427 bison survived plus a small number of wild boars and fallow deer. Nothing is known of other species at that time.

That was the condition of the Forest nature when it passed to the Romanov family in September 1888. At the tsarist court there was a fashion for private hunting grounds. In the newly established 'hunting farm' logging was totally abandoned and animals were imported from various parts of the world in order to start 'real' hunting as soon as possible. Nobody cared if they would find food in the thinned-out forest. As a result, a few years later some of the animals ran away and those which remained lost weight and became weaker. Nevertheless, in 1894 the first hunt for big game after many years was organized. It was 'not fabricated', as contemporary people described it.

In 1895 Tsar Nicholas II ascended to the Russian throne. His appetite for hunting surpassed all that the Forest had experienced for centuries. It became urgent to facilitate the management of the hunting farm. The enlightened minds of Russian specialists Andreyevsky, Potulov and Kolokoltzov conceived of a fiendish idea: the Białowieża Forest could be turned into a gigantic game park. There was room for any number of animals, provided they were supplied with enough food!

The priorities were established as follows: 1. The care and protection of game; 2. Reproduction, introduction of 'fresh blood' and crossbreeding; 3. Organizing of the Tsar's hunts.

Till 1894 there were only 4 sheds, 8 stacks and 10 feeding stacks, in which hay stayed until it rotted and got mouldy. The following year solid roofed barns were built as stores and shelters were dug out in the ground with small feeding racks around them. The number of feeding sites was systematically increased, to reach 64 large storehouses, 27 stacks and 321 feeding racks scattered round the forest in 1902.

The expenditure on fodder increased 27 times. The stores were filled up several times every winter by regular suppliers. The delivered fodder was received by a commission including the *oberjeger* (senior huntsman) or other person from the hunting administration. Every year by 15 September the manager made a cost calculation based on the feeding standards, separately for each species. Annual expenditure for one deer was 4.5 rubles, for a wild boar 1 ruble, a roe deer 75 kopeck and for a bison as much as 40 rubles. 47,000 rubles per year were spent altogether and it was still not enough.

The animals gained some weight and started to multiply. Thanks to this, during the ten-day hunt in 1900 they could kill as many as 680 animals, 'without any deceptions, as it happened before'.

One of the reports of the Russian forest administration, which differed from each other, gives an idea of the changes in the quantities of game in the Tsar's 'hunting farm', i. e. the Białowieża and Świsłocz Forests combined. The approximate figures (only bison could be counted precisely) refer to the years, 1895 and 1902 respectively: bison – 535, 665; deer – 665, 2,500; fallow deer – 96, 700; elk – 490, 450; roe deer – 959, 5,000; wild boar – no data, 1,800.

But it was not all so perfect. Acting in haste, they employed some incompetent people, mostly peasants unprepared for work with game animals. Fodder was always in short supply and it was not adequate. The feeding system was also criticized. Hay, oats and potatoes were distributed every day in small rations, which made the animals that could not rely on natural feeding hang around the feed racks. They tended to overeat when the fodder

was brought and they starved throughout the rest of the day, which was not good for their digestive system. Besides, stronger animals kept the younger ones away from food and smaller species such as roe deer were always losers in confrontation with bigger animals like bison.

As a result, in the opinion of contemporary experts the animals 'were frail, red deer was absent, elks did not develop palmate antlers, wild boars weighed less than 150 pounds and the hunted roebucks sometimes had proper antlers, but those were only the descendants of the roe deer imported from the Ural Mountains in 1890 and constituted a minority. Only fallow deer were in amazingly good form'. The worst thing was that all the young deciduous trees were eaten up, heather and cowberry perished and for the lack of other nourishment animals began to peel the root bark of mature spruce and pine trees.

The forest authorities learned from their own mistakes. In 1897 they planted broom and from 1900 they started to plant deciduous trees on fenced clearings of a total area of 153 ha and chestnut trees by forest lodges, game wardens' houses and next to the game enclosure. To provide the animals with some natural food 7,000 aspens a year were cut. All feeding racks were supplied with salt licks and wherever it was possible – with watering places.

In 1910 the Białowieża Forest showed man he must not ignore the laws of nature. A terrible plague broke out in May, known as Bollinger's disease. That same year Professor N. J. Ekkert and the veterinary surgeon W. W. Fiders presented the scope of the disaster at the meeting of the Veterinary Society in St Petersburg. When the disease struck, the Białowieża fauna consisted of 730 bison, 124 elk, 5,177 deer, 1,402 fallow deer, 4,334 roe deer and 1,842 wild boars – 13,619 animals in all. By 20 July 1,104 wild animals had died, as well as great numbers of domestic cattle and pigs in neighbouring villages.

The Main Board for State Property and the Ministry of Home Affairs delegated 16 veterinarians led by Professor Ekkert to the

site. They found that the plague was caused by the 'rod-shaped bacterium of hemorrhagic septicemia'. In fact, two years earlier the bison expert K. Wróblewski warned that an outbreak of an epizootic should be expected, but his warning was totally ignored.

The meetings of veterinarians and the naming of the disease in no way helped the animals. In June 1911 the plaque was so widespread that an army of 3,000 workers and the whole forest staff collected carcasses and burnt them for several weeks. Many bison died in the plague.

At the time of the epidemic its cause was explained rather evasively: 'Because of an extremely dry summer a virulent epizootic broke out, called Bollinger's disease after the scientist who discovered its bacterium. The bacillus normally occurs deep in the ground and is neutral. Only in very dry seasons, which occur every dozen or so years, the roots of forest plants reach for water down to the subsoil and carry the germs in their sap to the organisms of animals that eat them, causing a disease similar to the Siberian plague. The removal of dead individuals is the only preventive measure, in order to stop the spreading of the disease by flies'.

Actually, the only measure that ought to be considered was to limit the number of wild animals. As the tsarist officials and vets had no courage to say it aloud, nature solved the problem in its own way quickly and efficiently, not bothering about the tasks of the hunting farm.

The roe deer is the smallest of the Cervidae family. It inhabits the whole of Europe, Asia Minor and Iran. Its subspecies lives in the distant Siberia. Despite its small size and complete helplessness, the animal is getting on well in the contemporary world. It is found both in 'man-made steppes', i. e. great agricultural areas, and in the dense woods of the Białowieża Forest. To inhabit such a vast territory, comprising several climatic zones and a great variety of biotopes, with so many natural enemies, requires special

talents. These include the striking ability to adopt to the changing environment and living conditions, swiftness and protective colouring of both adult and young roe deer.

They lead a sedentary life. In April and May roebucks with velvet already rubbed off their antlers mark their individual territories in the forest. The bigger the male, the larger, richer in food and hidings his realm is. Each territorial male runs about his area and marks its borders by hitting trees with his antlers to rub off the bark and rubbing his forehead against trunks to leave his scent there. Also, he scrapes the ground with his hooves to leave a visual trace and he barks like a dog. All males do these things in their own domains. When they meet at the border, a fierce struggle of two warriors may ensue with the use of their antlers as weapons.

In the meantime, female roe deer ignoring the male quarrels give birth to their spotted babies – usually two, sometimes one or three and even four. The young quickly stand up and a day after their birth they already try to find a separate place of their own. There, they lie quietly waiting for their mother to feed them with her thick, nourishing milk. Then she runs away to guard her kids from a distance. Should a raven, fox or cat approach too near, she can hit them with her sharp hooves. If a predator is bigger, the only hope that remains is the spotted protective coating, lack of scent and the ability of the young to keep still. The predator can only find and kill it by accident. These tricks always allow a mother roe deer to keep at least one kid alive. After a few weeks the young are so fit themselves that they can run fast to safety if necessary. The family unites at some meadow in the midst of the forest, where the mother and fawns graze and then rest together through hot midday hours in the shade of leaves.

August is the mating season. Bucks leave their territories and accompany one female for several days. Together they run about the woods, circle around trees, pretending to chase each other,

moaning and panting passionately. They leave mysterious footpaths in the forest floor called 'witch circles'.

Late in autumn, in November or December bucks shed their antlers – their weapon and ornament – and together with them some of their militant nature is lost. For the hardest time to come they join with females and young into small herds which stay in

Roe deer

bushy woods with a lot of deciduous understory. Throughout the long wintertime new embryos grow in the wombs of the females and new antler on the heads of males. Early in spring the life circle repeats again.

Roe deer like to live amid diversified landscape of fields and forests. Choosy about their food, there they find open sunlit spaces covered with a mass of herbs that yield a lot of flowers and fruit, as well as quiet places in which to hide from bothersome insects in summer or frosty winds in winter. Old, dense and dark forest offers little variety of undergrowth and understory vegetation. Therefore roe deer have never occurred in great numbers in the natural conditions of the Białowieża Forest. The imposing 5,000 roe deer living in the hunting farm of the tsars, in forests completely stripped of young trees, shrubs and herbs, were the sole result of feeding the animals by man.

Nowadays from 600 to 1000 roe deer inhabit the backwoods of the Polish part of the Białowieża Forest, depending on circumstances such as a light winter, an early spring or a temporary absence of predators.

The Protection

The man leaving the counting room closed the door quietly, with respect. Inside the office the *oberjeger* unbuttoned his uniform, closed the drawer of his desk with his big belly and bent backwards together with his chair. He stretched his arms and looked through the window: it seemed the winter was over. Beams of sunshine poured in through the small glass panes divided by a crosslike frame to form bright patches on the neatly swept floor; dust particles glimmered in the air.

He looked at the bench, where pelts were spread: 10 marten, 24 fox and 6 badger skins. These could be the last this winter. There was almost no snow and any day animals would begin to lose fur. The cash desk was empty. The payment for the protection of game from predators was raised so high that he had to take three lacking coins from his own pocket to pay the shooter his due 173 rubles. His subordinate worked quite well. Every night he lay in guard by the badger hole to greet the pests with lead as soon as they woke up from their winter sleep.

It was so hot in the room he could hardly breathe. He asked the maid so many times not to put oak logs into the stove in March and she still did. She only looked for ways to flatter him and win his favour. How she praised her old man's honesty! As if he wasn't aware the sausage he ate had nothing in common with a pigsty and the pâté wrapped in white linen – with a hen house. But it wasn't his business. He didn't catch any peasant red-handed. Besides, everybody would admit they knew how to smoke meat at Teremiski, they didn't stint on juniper...

'Tamara! Juice!' As if she were waiting by the door, a simply dressed woman ran in. She put a jug of freshly drawn birch sap and a glass on

the table. She hid her work-worn hands under her apron and humbly waited for further orders.

The *oberjeger* poured some juice, drank it and picked his teeth with a splinter of wood. He was thinking. Then he looked at the maid. 'You know, silly woman: Samoylov, the new broom of the Tsar, keeps sending people to the borderlands, where winters are long and frosty, unlike here...' The woman looked down and said nothing. The *oberjeger* swung his chair and stared through the window. 'Well, they say', he went on in an undertone, 'a big inspection is to be made at Teremiski. They say your old man is the first on the list.' He looked at the golden dust whirling in the beam of light. 'Get out, damn you!', he roared all of a sudden and the woman was gone.

The early-spring days were warm enough to take out quilts filled with down and air the winter stench out of them. Hens could be let out to scratch the dung and neighbours could chat at the fence about how Nicolay Paveluk slapped his Tamara on the face. She was cheeky, she deserved that. Everybody knew he didn't go to the forest to date women, so why does she tell him to stay at home like an elderly man? Just as today: women are about to finish their morning rounds and men are still out of sight. They have been looking for deer antlers since dawn, as the Good Lord told them to...

Deep in the forest a young female wild boar made her lair among fallen spruce trees. She brought a lot of dry grass in her snout and built a nest behind a trunk. There, hidden from the world and protected from the wind, she gave birth to six piglets. The first few nights she slept with them, for it became really frosty after sunset. During the day she looked for food in the vicinity, always alert and ready to defend her youngsters.

Nicolay Paveluk was fed up with strolling around the forest. Antlers had been collected by others, loops were empty, the axe he put under his belt seemed ever heavier and its long handle hit his thigh. The more he walked, the less he was angry with his wife. He knew Tamara wasn't shy. They hosted inspectors many a time and she would always talk

'Spear-throwers' by J. Fałat ▷

back to them. But now she suddenly went mad. 'Don't go to the forest, don't bring any game home, the *oberjeger* warned'. If you didn't punch her in the face, there would be no peace.

Nicolay saw a huge fallen spruce still with green needles. The sun warmed its rough, resinous bark. It would be nice to sit down for a while and smoke some shag. But he heard something move and rustle behind the trunk. He crouched and moved to the left, where the trunk was thickest. Slowly and quietly he climbed up the branches to its top and looked down. At the first instant he saw nothing. 'A mouse', he thought. He was about to jump down, when a ray of sun lit the bundle of dry grass. 'What good luck!' He looked around – it was quiet everywhere. Only somewhere in the distance a woodpecker tapped his drum.

Nicolay started his job with cold blood. He broke a few branches that jutted out and checked if the side ones would withstand his weight. Then he jumped straight into the lair. Little striped bodies huddled together and did not move. Their six pairs of eyes were closed tight, pretending there was no living creature there. He lifted one of the piglets. Its thin bones didn't even crush too loud, but the silence of the forest was broken by an anguished, penetrating squeak. The second, third, fourth, fifth and sixth – the man lifted them one by one, broke their legs and threw the mutilated piglets back to the lair. He heard some crackle in a distance. He took his axe and slowly climbed the trunk again. He stood astride, his feet clinging to the remains of branches, and waited. Like some black fury the mother ran to rescue her children. Nicolay sighed with relief – she was small, he would cope with her easily. The wild boar mother tore her way through spruce branches to the lair, where the piglets cried. She saw her enemy. With bristled fur she climbed the trunk with her front feet and reached to the man's legs with her open jaws. One well-aimed blow with his axe was enough.

The squeaking continued and became irritating. Nicolay jumped down and started to put things in order, when he heard another crackle in the forest. Before he realized what it was, he had handcuffs fastened round his wrists. They bore a sign of a two-headed eagle.

Directly after the takeover of the Białowieża and Świsłocz Forests by the tsarist administration, the forest territory was divided into three regions: the western one of the former Hajnowszczyzna forest district, the eastern one of the Browsk district and the Świsłocz Forest, and the southern one of the Stołpowsk and Royal districts. Then they were turned into five estates. At that time 12 supervisors and 81 forest wardens were employed, as well as three game wardens and two special bison wardens. The income of the supervisors, including their salary and profits from the land they were allotted, totalled some 246 rubles and that of the wardens 137 rubles a year. The total area of land used by the forest guard was 1,488 ha. The average area of a walking round covered 1,269 ha and a riding circuit 8,492 ha, i.e. six to eight times more. Their protection was not very effective. Many wardens lived far from their circuits, some of which were too large.

As the 'hunting farm' was developed, the control over the two forests was increased. At the beginning of the 20th century the forest service consisted of 21 supervisors and 125 wardens, their total salary amounting to 18,438 rubles. Every warden was allotted about 1 to 1.5 ha of land free and from 5.26 to 11.89 ha of land for which a tax was deducted from his salary. The total area of land used by the forest guard was 1,516 ha. 15 supervisors and 53 wardens lived in tied cottages and the rest had their own farms or rented apartments.

The sums assigned for forest protection were less imposing than those spent on the maintaining of the hunting staff: 5 senior huntsmen (*oberjegers*), 15 huntsmen (*jegers*), 11 shooters, 34 bison wardens and four other employees; their total salary was 23,287 rubles. The Manager of Hunting earned 3,700 rubles including the refunding of travel costs. Eight policemen fighting against poachers earned 3,284 rubles altogether. The imperial treasury paid 30,270 rubles a year to keep the game service. The cost of building cottages for some of them was 26,631 rubles.

Fodder for animals cost the Tsar 30,762 rubles in 1899, 44,027 rubles in 1900 and 41,918 rubles in 1901. About 2,830 rubles was spent each year for barns and the repair of feeding racks.

Initially the funds for the maintaining of the hunting farm were obtained from the sale of timber. But in August 1897 the Tsar visited Białowieża and expressed his wish that the keeping of the unique character of the forest should be the administration's goal

A *Białowieża cottage*

rather than obtaining big profits. At the emperor's order they stopped felling healthy trees at all, except for a certain number of aspens, which provided bark for animal feed. Till 1901 only forest debris, deadwood and fallen trees were taken out of the forest, as well as pines and spruces with yellowed and falling needles. Also, too dense young coniferous forests were thinned out.

As the quantity of deadwood was growing with years, the permit to cut trees of various species with dry tops, dying pines and mature spruces of 49 cm at breast height, every year on one-sixth of the Forest area, was granted on 18 January 1903. Experimentally, it was also allowed to clear-cut deciduous forests covering up to 21.85 ha, with the exception of oaks and ashes.

The fees collected from peasants for cattle grazing in assigned forest areas provided another source of money for the maintenance of the Tsar's game. Not only cattle from the villages lying within the administrative borders of the Forest, but also from 13 neighbouring villages was grazed there. The grazing of cattle, sheep, horses and pigs in the forest was an age-old tradition, which was kept up in the hunting farm despite being harmful to the forest. Thousands of domestic animals seeking food there resulted in complete or almost complete devastation of brushwood and undergrowth. However, the forest management accepted the loss in order 'to avoid complaints on the part of the local population'.

In 1888 and 1889 the fees for grazing 6,348 animals on the area of 47,473 ha brought a profit of 5,000 rubles a year, i. e. nearly 2% of the total income from the Forest. In 1900–1902 the grazing area was 28,644 ha. The annual fee for one cow was 1 ruble 45 kopecks, for a calf and an ox – 70 kopecks each. The income from those fees in 1900 amounted to 6,943 rubles, in 1901 – 6,149 rubles and in 1902 – 5,909 rubles.

The protection of game (big herbivores) in the Tsar's hunting farm consisted mainly in killing off predators and fighting against poachers. In 1896 the reward for each killed 'pest' was raised and

it was paid regularly. As it was expected, it resulted in a greater activity of the game service. For instance, in 1895 a total of 341 rubles was paid, in 1897 – 570, in 1899 – 1,604 and in 1901 – 3,206 rubles, an equivalent of the cost of a whole year's fodder supply for 80 bison. An attempt was made to reward the killing of stray dogs and cats, but this was not successful. Nobody wanted to make oneself an enemy of his neighbour.

Predators were not to be hunted accidentally. Each shot had to be localized, reported to an *oberjeger* or the region's supervisor and well documented. The permission to kill predators was issued when it started to snow and lasted until bare soil was uncovered. In the financial year of 1887 (from July till July) 8 wolves, 2 lynxes, 153 foxes, 164 martens, 60 polecats, 62 badgers, 1 weasel and 103 hawks and owls were killed. Five years later the 'protection' gave even more imposing effects: 3 wolves, 632 foxes, 190 martens, 228 polecats, 25 ermines, 2 weasels, 4 eagles, 1,029 hawks and owls killed. At that time it was forbidden to lay out strychnine pills, for they killed wild boars and even hunting dogs in great quantities instead of wolves, which were already nearly extinct. They also stopped using traps of various kinds, for it was difficult to distinguish them from poachers' devices.

In the first half of the 1890s a lot of work was done in the Białowieża Forest. Surveys for topographic and taxation maps were made, new roads and hunting paths were laid out, dikes were built and the main east-west tract was covered with rubble. Railway tracks from Hajnówka to Białowieża were constructed and the tsar's station was built. In the forest, stores for fodder and a network of feeding racks was set up, forest cuts were cleared, deadwood was removed and drainage ditches were dug.

In 1891–1892 engineer Wallenburger directed the works on the straightening of the Narewka River course on 32 km and the regulation of its tributaries, the Lutownia on 16 km and the

Hwoźna on 11.7 km. In 1894 some sluices were constructed on the Narewka, three more dams on the Łutownia and three on the Hwoźna were built, which greatly prolonged the navigating season.

All these works required a lot of people to be employed. During the most hectic time forest wardens in increased numbers supervised the workers to make sure they did not walk about the forest, make fires or too much noise.

When all the works were completed and the constructed devices had only to be further maintained, it seemed that peace returned to the backwoods. Still, the local inhabitants of three villages: Budy with 24, Teremiski with 25 and Pogorzelce with 22 cottages enjoyed certain privileges of using the forest.

Soon the privileges were limited. Horse-drawn wagons could only be driven along marked roads; all kinds of bells and jingles had to be silenced upon entrance to the forest. Herds of cattle were allowed to enter only some areas and night grazing was strictly forbidden. Berries and mushrooms initially were gathered only by holders of a special ticket valid one day. Mushroom

The tsarist railway station at Białowieża

pickers were obliged to help with forest constructions and repairs. Later, the tickets were issued free, but only to people trusted by the tsarist administration.

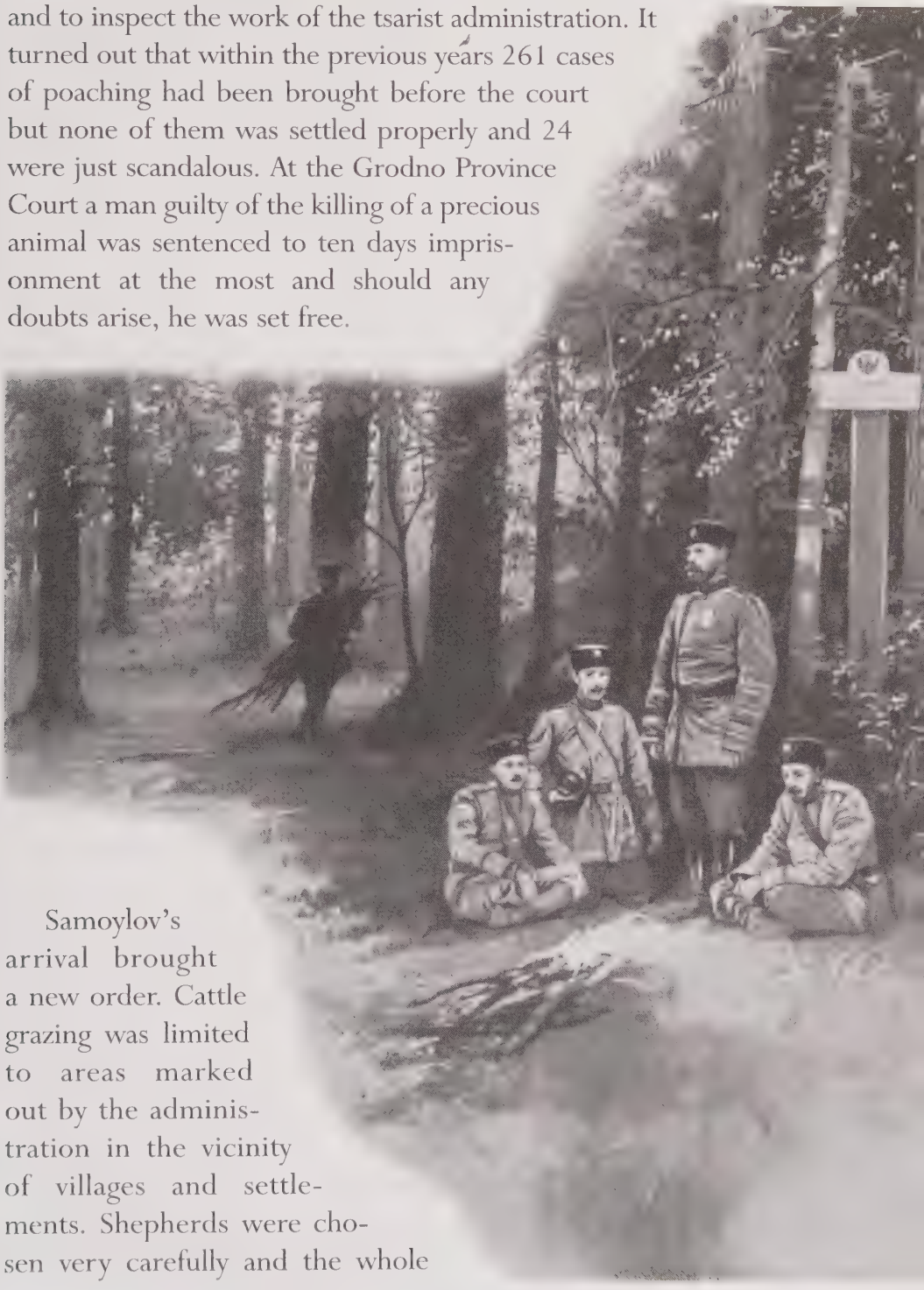
As deer abounded, the practice of collecting shed antlers was (and still is) very common, although people were aware they were doing great harm to the animals by following them so closely. Fortunately for deer, the demand for horns slowed down and it no longer paid to take the effort of looking for antlers.

It was poaching that posed a serious problem for the tsarist hunting farm. The more game that inhabited the forest, the better off the local villagers became. The newly-built railway and good roads encouraged trading. People poached for profit and for sport. Poachers included peasants from villages and settlements at the edge of the forest and in its middle. Another problem was hunting by owners of private estates adjoining the Białowieża Forest. According to Russian legislature, they had the right to hunt big game except bison in their own territories, so they commonly chased animals into their land. Poaching spread without limits. Old poachers taught the young, they formed family clans and gangs. Animals were killed with firearms, javelins and axes, with the use of various traps, snares and pits. Hollow trees in many wild backwoods hid collections of weapons. Poaching increased every spring and autumn: there was no snow, so it was harder to trace the criminals, and the game fed by man was trusting and easier to approach. There was peace in the forest only in times of great snow, haymaking and harvest.

Every poacher knew the forest perfectly well. Only the local *jegier* – often his neighbour or relative – was able to track down and catch the criminal. That made *jegiers* susceptible to corruption and nepotism.

When the problem grew too irksome, in October 1896 Major General Samoylov from the Ministry of Home Affairs was sent to the Białowieża Forest to check upon the extent of local poaching

and to inspect the work of the tsarist administration. It turned out that within the previous years 261 cases of poaching had been brought before the court but none of them was settled properly and 24 were just scandalous. At the Grodno Province Court a man guilty of the killing of a precious animal was sentenced to ten days imprisonment at the most and should any doubts arise, he was set free.



Samoylov's arrival brought a new order. Cattle grazing was limited to areas marked out by the administration in the vicinity of villages and settlements. Shepherds were chosen very carefully and the whole

community was responsible for their actions. Five mounted police officers were sent in for permanent assistance. The gendarmes inspected villages and forests, searched passengers of trains and horse-drawn carriages. In each village where poaching occurred most often a tsarist official was settled and all forest wardens were carefully examined. In order to stop animals from going out to village fields and meadows, timber was given free to peasants, who were obliged to fence their fields at their own cost.

Those difficulties were evaded, too. Peasants were as clever as to leave well-concealed narrow entrances in the fencing. If they were opened, animals quickly got used to going out into the fields. That was the point. Villagers arranged a chase with dogs at midnight, driving the animals towards the forest. A few armed men waited at the entrance. They used only cold steel, for such was the tsarist law: at their own territories villagers had the right to kill with cold steel the animals that damaged their fields. They used mostly lances made by local blacksmiths. The three-metre-long wooden shaft ended with a round fitting and a huge sharp point. Scythes and axes were also used. The village of Lipiny was famous for brave peasants who could stab wild boars with bayonets held in hands. To make things easier, pits were dug next to entrances into fields. Wild boars were the most frequent victims of this kind of poaching.

In answer to that, Samoylov announced a ban on keeping cold steel. A list of the most incorrigible and cruel poachers was made. One by one, they were caught and sent away 'for a time' to the 'borderland' or 'to hunt polar bears' as it was also described. One of the poachers, a brave peasant, stabbed a bison to death, loaded the meat on a wagon and covered it with hay. He nearly carried his load to the town of Białystok, but denunciated by his envious neighbour, he ended his travels in Siberia.

The threat of deportation to Siberia and the change of the general atmosphere made the province courts work faster. While in 1888 only eight cases of poaching were heard, in 1896

as many as 107 poachers were tried and only 22 cases were dropped.

In 1889 peasants were officially forbidden to enter the Białowieża Forest and the ban on holding firearms was in force within ten miles from its border. In three successive years 400 rifles were confiscated.

Landowners were dealt with in a different way. Although it was suspected that game wandered to private estates, it was impossible to prove that a particular animal killed there came from the Białowieża Forest. The most troublesome area was on the east side near the Chwojnik range, where the main animal migration route crossed the swamps and fens. Thus two ditches of several kilometres in length were dug to the northwest of Chwojnik, with a dike between them, which carried a road. The road edge was protected with a fence of wooden poles. At regular intervals, high escarpments were made for animals to jump down to the forest, but the way to the fields was closed. In this tricky way dozens of elks which inhabited the swamps were saved from being killed by poachers.

However, the evil practice of poaching was by no means completely eradicated. One of the best known incidents took place in March 1906. A well-organized gang of ten poachers armed with firearms forced their way into the Białowieża Forest. Someone reported this early enough to the authorities. Five game wardens led by the forest inspector and a platoon of Kharkov dragoons led by an officer followed them. Six poachers escaped but the rest of them were encircled barricaded inside the bison paddock, most probably at the Panasinek game enclosure near Berezówka. Summoned to surrender, they opened fire. Luckily, the shots were wide. After the first volley fired by the soldiers, they immediately stopped fighting. It turned out that they possessed big amounts of powder and buckshot.

At that period the conventional wisdom said: 'Neither a poacher himself nor his family regard themselves as thieves, just as

a child stealing apples from someone's orchard. In both cases the best measure to undertake should be an adequate guard and there is never too much of guarding'. Unfortunately, this statement has not become obsolete.

The Inventory

Although at the beginning of March most of the snow, which had been lingering from December, had thawed and the sun shone brightly in the clear blue sky, old people knew better: the winter of 1902 was not over yet. It would snow again any day and the snow would stay till mid-April. That's what they said and they weren't going to leave their warm sleeping places at kitchen ovens. A wise man always listens to age and experience, so Mr Newerly, who had managed the forest hunting farm for eight years, looked at the cloudless sky with impatience. 'Let the change of weather come quick and bring new snow', he thought. 'Days are already longer, it won't be very frosty – a perfect time for making an inventory of the Tsar's property.' And the counting had to be repeated. The February results were not reliable at all. Game wardens were surprised at their work by an afternoon blizzard. Some of them did not manage to make their whole round, others wrote the numbers off the cuff. For several nights the senior huntsman pored over the pile of papers scribbled ineptly by his subordinates. Nothing was right. The figures indicated 12,000 roe deer lived in the forest, while in fact they amounted to some 6,000, the elk was not found at all and the number of wild boars was on the decline, while even the blind could see there were plenty of them at feeding places. He wished he had such good staff as that which he saw at the ducal estate in Moravia, where he learned his profession. He went to bed at dawn completely discouraged. He worried during day hours, too. He oughtn't to leave matters unsettled. The game had to be counted precisely, Mr Newerly's honour demanded that!

Soon after the full moon clouds gathered in the sky, the temperature fell below zero and snow was obviously in the air. On 25 March the telephones in all *oberjegers'* offices rang early in the morning. They were to come immediately to the Zwierzyniec settlement.

They had been deliberating for an hour already at the table strewn with sketch-maps and forms in the spacious office of the senior huntsman. On a large map of the Forest hanging on the wall the borders of each of the five *oberjegers'* areas of management were marked off with a red line. The main areas were subdivided into small walking rounds of 4 to 8 units, in which game would be counted as soon as snow fell. Having discussed the necessary corrections of their size and borders, the officials took out lists of counting men. First they chose the most reliable and proven of the 50 huntsmen and 150 forest wardens. They would count tracks in the most difficult places, animal habitats, dense deciduous and spruce forests. The youngest and least experienced were assigned larger rounds but with scarce game – they would learn their job under the supervision of *jegers*. Those who proved to be unreliable were excluded from the counting. They did enough damage in February.

The meeting was over. Each *oberjeger* put a bundle of forms into his bag and they left Zwierzyniec hurriedly. Jegers and shooters were already waiting in

Senior huntsman Józef W. Newerly

their own offices. By the end of the day they had to notify forest and bison wardens of their meeting point.

It started snowing right after lunchtime. Heavy, wet snow covered the old animal and human footprints with a thick blanket. Tree branches and mezereon shrubs already in pink flowers were bent down to the earth. Before the next morning the sky cleared up. A cool but bright day was coming.

At sunrise hundreds of deer, wild boars, roe deer, fallow deer and bison stood by the empty troughs, waiting in vain for their daily food ration. The feeding time was long gone and the familiar jingle of sleighs full of fodder and hay still did not break the silence in the forest. The hungry animals lost their patience. They set out – first individuals then groups – to check the neighbouring feed tracks. They crossed the paths and cuts dividing forest units, leaving their tracks printed clearly in the wet snow. An expert eye could easily read the age and even sex of an animal from its tracks.

A man in a woollen uniform jacket with green lapels and hems and a sheepskin-rimmed cap with a polished oval tsarist forest guard badge on it was walking slowly along the road that divided two neighbouring round areas. Arkady Buszko, one of the best forest shooters, promoted by Mr Newerly to the post of a *jeger*, carefully inspected the snow, now and then stopping to fill some more spaces in his form. 'Oh! Here ran a huge wild boar. Must be the same that rules over the feeding place nearby and keeps young boars away from potatoes and oats. And here, what was it that walked on this narrow path? Sure, a herd of deer. But how to count how many of them?' The man followed the tracks to the neighbouring forest unit. It was a good idea: at the nearest fallen spruce the tracks separated. He wrote down: 14 does and 9 last-year's calves.

As he walked kilometre by kilometre, the empty spaces in his form got slowly filled. He registered the species, number, sex, age and the direction they went. In a distance he could already see the crossroads that ended his assigned unit, when he heard a loud noise on the west side at the edge of vast marshes. He had no time to look for cover, so he stood motionless in the middle of the road.

A large head with a droopy, hooked muzzle and big soft nostrils emerged out of the bushes. A female elk stepped across the ditch by the road. The thin ice covering its water cracked under her hooves, and she climbed the dike onto the road. She turned her head to the man, stared for a long while at the shiny metal badge on his cap and slowly, in a grand manner she went to the other side of the road. She was followed by two quite grown calves. The procession was closed by a huge bearded bull. Then all became silent again. With trembling hands Arkady put them down under 'Elk', the animal that was met very rarely at that time.

At the beginning of the 20th century the 'hunting farm' of the Tsar was managed by Józef W. Newerly, grandfather of the writer Igor Abramow-Newerly, the author of several novels. The Białowieża senior huntsman was then a man in his sixties, well-known at three European courts and revered as a game breeder and unmatched organizer of hunts for big game. He started his career in his native Moravia, where he practised hunting skills in the estates of Austrian and Hungarian lords. From 1872 he worked on the establishment of a hunting farm at the Boratyński family's Skierniewice estate and when the owner of Skierniewice died in 1879 he was moved to the newly established great hunting grounds at Spała. There in 1894 the tsarist court offered him to take up the highest office in the Białowieża Forest.

The Newerly family settled in the larch-wood mansion with a shingle roof at Zwierzyniec. From the building in the middle of a park a gravelled alley led via the main Białowieża gate to the Hajnówka road. At the crossroads, a natural-size bison monument

The Newerly family house at Zwierzyniec

stood on a high plinth. The ground floor of the spacious house built in 1891 was occupied by a large kitchen, a dining room where hunters could eat meals and several rooms at the sole disposal of the Tsar. The senior official and his family lived on the first floor. The beautiful mansion with ornamental openwork porches and galleries and walls covered by Virginian creeper was burnt during the First World War. A much more modest forester's lodge was built at its site.

The manager of the hunting grounds had five assistants – *oberjegers*. Each of them lived in a tied house with a telephone and supervised a certain area of the forest. Their many duties included taking care of the game and knowing it perfectly, as well as its lairs, paths and breeding grounds. They also directed the lower staff, fought against poaching, supervised workers in the forest, ran the main store of fodder and controlled its distribution in winter. They were in charge of the hunting administration, game registering and dog keeping. Finally, they had to play correctly all hunting signals.

The subordinate staff consisted of 15 *jegers*, who guarded the forest area of 4.5 to 6 hectares, and 11 shooters with similar duties in areas with less valuable game. The two groups with the help of 22 bison wardens guarded the 26 basic units of the Białowieża Forest. From 1896 the lower officials could only possess one rifle each instead of any number that was allowed earlier. The double-barrel guns were marked with individual signs to make sure they were not sold to poachers.

The number of animals was estimated in a few ways. The methods included yearlong observation obligatory for all employees of the hunting farm, everyday counting and checking the condition of the game at winter feeding sites and one-day inventories made in the whole Forest area when it was covered with snow. All these methods were inaccurate, so their results had to be coordinated by J.W. Newerly.

A hundred years had to pass since then before a reliable estimation of the game condition once again became the foundation

of all protective and hunting activities in the Białowieża Forest. New methods were added to the old tested ones. Starting from 1995 we count the forest game twice a year together in cooperation: the forest administration and the game wardens of three forest divisions of Białowieża, Browsk and Hajnówka, with the help of Białowieża National Park employees, students of the Secondary Technical School of Forestry and the staff of the Natural Forest Department of the Forestry Research Institute. In autumn, we register bulls that produce vocal sounds. In winter, we have continued counting the tracks of all mammals – from squirrel to bison – in permanent sample areas since 1991. Besides, just like it was in the time of the tsars, dozens of people who work in the forest everyday make careful notes each time they meet a wild animal.

On the basis of the data obtained I compose reports 'On the Game Population in the Białowieża Forest' twice a year. At present the population of deer amounts to about 1,300–1,600 specimens. Roe deer, regarded as an important part of the diet of forest predators and as such almost excluded from shooting, reach about 1,000. The wild boar population is growing and today it amounts to about 1,200–1,400. Their condition is also improving. Elks, which have not been hunted since 1995, are slowly reproducing their herd, despite being a target of wolves. Only the situation with lynxes is a little disturbing: but a few individuals are still alive..

The Dream

His Imperial Highness Grand Duke Mikhail Aleksandrovich, heir to the throne, fell soundly asleep, tired from the day he had spent hunting. Nothing dared to disturb the deep silence that prevailed over the dark mass of the building on a hill upon the Narewka, for Tsar Nicholas II and his family were resting there in canopied beds. Nobody would guess that in the palace kitchens far from the state rooms work never ceased: the servants prepared meals for the next day of the hunt.

Kniaz Mikhail turned in his bed. A radiant smile appeared on his young face. Beneath his closed eyelids the black curtain of unconsciousness went up, unveiling the green Białowieża Palace Park already marked with some yellow and brown, a sign of the coming autumn. A grey horse with a docked tail and a light saddle on its back was led out from the stable. Mikhail put his foot into the stirrup, tossed his body up and he was sitting on horseback. He stroked his short-trimmed moustache

Grand Duke Mikhail Aleksandrovich

and pulled down the visor of his cap to protect his eyes from the morning sun, pressed the mount with his legs, smacked his lips and started the horse at a trot, leaving the palace hill behind. Let the elderly drive in their carriages along the iron road. He would gallop his way among the venerable oaks and pines to be the first at the range of Nieznany Bór (Unknown Forest). The horse, used to running about the forest, covered mile after mile with an even clatter of hooves.

Two versts away from his goal, the rider stopped to ask about the progress in the preparations for the hunt. A jeger stiffened up to report that men with ropes had already gone in the quarters and were about to finish hanging flags, while soldiers dressed in white were ready to start the chase. Mikhail rode on, passing a huge tent with tables awaiting the provisions from the palace kitchens. Nothing disturbed the tranquillity of the ancient primeval forest except the rustle of leaves stroked by a gentle breeze. Who would believe that a crowd of peasants, soldiers, Tsar's game service and guards were working all the time in that charming quiet place. *Oberjegermajster* Newerly was doing a good job!

He saw the shooting line and the first, side stand No 16 for his brother the Tsar. It looked no different than other stands. Just behind the roadside ditch with a footbridge stood a few poles about 40 inches high, interlaced with spruce branches. 200 steps away from the cover an even cut was made into the woods. 90 steps from the Tsar's stand was another cover and another cut. And this repeated at every stand. Which one would be drawn for him? Number one seemed to be the best – a side stand on a low elevation with an old forest in front, where scarcely growing trees did not block the view.

But how come the hunting had already started? He raised his eyebrows in sleep. He stood behind the cover of spruce branches pressing the butt of his rifle to his cheek, while in front of him a row of furry bison were marching amid the trees. Wait! Stop! The first animal was crossing the cutting when he positioned himself, squeezed the trigger – flash! – and the bison fell down to the ground.

The dream got tangled. Bloody fog veiled the whole scene. He saw hundreds of terrified eyes around. Trees bent like arches and floated in the air, shielding the tormented animals against the bullets. An army of white ghosts emerged from the forest and unrelentingly proceeded forward, always nearer and nearer. Where should he hide, how to escape,

The Tsar's hunt: a chase entering the first unit

when his legs were as heavy as lead! With a weak moan he turned about in his bed and he fell into a black abyss of dreamless sleep.

His face became happy and relaxed again. In his sleep he saw another scene. He stood at night with his uncle in front of the stately gate of the palace. The quarry of the day lay spread below, decorated with garlands of oak twigs. In the first row from the terrace was the monarch's quarry: bison on the right, then elks, deer, fallow and roe deer, wild boars, hares, 'plumage' and foxes. In the second and next rows – the quarries of the Tsar's family and guests. The dark background behind the dead animals was formed by the serried ranks of the hunting unit in parade uniforms, flanked by two semicircles of servants in red Russian shirts holding torches. Their light was thrown on the crowd of faces gathered in the park: nobles and commoners from the villages of the Białowieża Forest, pilgrims from Grodno, Białystok, Brest and even from distant Warsaw. They were the lucky ones who were to see the Tsar and all other hunters from the Romanov family.

The Emperor of All Russias Nicholas II appeared at the door of the palace. He was short and slim, his eyes were always sad and his face solemn. At the same moment a row of brass instruments was raised and the air vibrated with a great fanfare to the Host. In a while he would come to the display and the Grand Master of the Hunt would point with his cutlass at the biggest bison, elk and wild boar, and the death of every animal would be honoured by a special signal...

A tawny owl coming back from its hunt perched on the steel gallery decorating the gable of the steep roof of the Tsar's palace. The roundish shape of the bird was clearly visible against the dawning sky.

A ghostly cry broke through the open bedroom window into the grand duke's dream and turned into a devilish laughter. The torch-light started to roll, faces blurred and faded away, the sharp cutlass blade gleamed menacingly. The red fog embraced them again, accompanied by an awesome army of ghosts. Instead of the dead animals, dead bodies of his close family were lying in blood on the ground. The girls were still alive, their eyes calling for help. Nicholas was hugging his son. His dead eyes looking at his brother expressed sadness and despair. A black gun barrel emerged from behind... Mikhail lost consciousness. He was awakened by the mourning sound of church bells.

A tawny owl

To the astonishment of all people, that Sunday the heir to the throne Grand Duke Mikhail, a passionate hunter, did not go out hunting.

Collective hunts for big game were the only goal of running the Tsar's hunting farm. Their perfect organization in every detail was admired by the European relatives of the Romanov family invited to the August hunts in the Białowieża Forest.

A single hunt usually lasted about ten days. A detailed programme of events, prepared for various weather conditions, movements of game in the forest, considering the current state of roads and hunting facilities, was ready many weeks prior to the arrival of hunters. A dry terrain was chosen, with a few open spaces and abounding in game. Every day 7 to 9 shooting parties did the chase in units of about 400 ha. Their routes were marked on trees with white paint, so that the chasers would not take a wrong direction and could even their ranks on a given signal.

The Białowieża game service was aided by a unit of court shooters, 500 soldiers and 200–300 local peasants. The huge mass of helping men commanded by *jegers* and *oberjegers* performed their tasks superbly. They were divided in two groups: while one group chased the game to the shooting line, the other positioned themselves in the next lair.

On the day of hunting at dawn both groups went from Białowieża to the site of the first shooting party. At about one and a half mile from the goal they had to keep absolute silence. Ropes with flags were distributed and hung on three sides of the hunting site. Peasants were positioned along the ropes, the closer to the shooting line, the more of them. Their task was to scare away those animals which would attempt to cross the line of flags. Simultaneously, on the side opposite to the hunters' stands a line of soldiers-chasers in white shirts was formed. At seven a. m. all preparations had to be completed.

The distinguished guests slept in the palace – an opulent, though not very refined in taste, eclectic building on the hill beside the ponds on the Narewka. It was designed by Nicolas de Rochefort and built for Tsar Alexander III of red brick baked in the local Millers' brickyard. (The Miller family of German descent

still lives in Białowieża). The palace, decorated with numerous towers and turrets, oriels, galleries and steel ornaments, the entrance gate and accompanying buildings such as the Marshal's House and stables were begun in 1889 and completed in August 1894. The cost of the palace construction and furnishing as well as the laying out of the park totalled 1,250,000 rubles. According to an old Białowieża anecdote, when the Tsar saw the work of the fashionable architect for the first time and almost completed, he only said one word: '*naplevat!*' (yuck!). Still, it is a pity that this symbol of the past epoch in the history of the Białowieża Forest, partly destroyed by fire in the last days of the Second World War,

◁ *Tsar Nicholas II in the Białowieża Forest*

was blown up and pulled down, probably for ideological reasons, in the period of the Polish Peoples' Republic. Now it could be turned into a five-star hotel and would provide a great attraction for tourists.

A cluster of oaks in front of the fancy edifice was the remainder of an open oak forest that had covered the natural postglacial hill centuries before. The 50-hectare park around it was arranged in the last years of the 19th century to the design by the Polish landscape architect W. Kronenberg, who also designed Skaryszew Park in Warsaw. Reportedly, a two-headed tsarist eagle formed by specially arranged trees and bushes was visible from above. Today it can be hardly confirmed, as in the course of time the park has lost much of its elements due to vandalism and neglect. After the last war, in 1947 botanist Roman Kobendza published his appeal concerning a project to establish an open-air botanical museum in the Palace Park at Białowieża in the *Las Polski* (Polish Forest). The editorial comment to the article, in my opinion written by J.J. Karpiński, then the park director, said: 'The works on the establishing of a forest flora garden were undertaken by the Forestry Research Institute at Białowieża last autumn'. It was just an idle statement, without any consequences up to now.

However, the park designed in the English natural style is still beautiful. Its intentionally scattered clusters of trees and shrubs frame the open spaces of lawns cut by naturally winding alleys. The vegetation set in artistic compositions of shapes and colours includes some fine species alien to the Białowieża Forest, now getting pretty old: pin and red oaks, shagbark hickories, wych elms, paper birches, mountain pines, Austrian pines, Douglas firs, Crimean lindens, Canada hemlocks, balsam firs and blue spruces. The palace and park were reflected in the water of two ponds dug between two riverbeds of the Narewka. The rich soil thus obtained was used to enrich the poor soil covering the hill.

Around eight o'clock a cavalcade of carriages set out from the palace grounds. Nicholas used to travel in a troika, while his

brother Mikhail, the successor to the throne, preferred lonely horse rides. If the hunting took placé far from Białowieża, during part of the journey the guests drove along the so-called 'iron road' built on the Tsar's order. 300 feet from the shooting line the hunters got off their carriages. After a short consultation with the Grand Master of the Hunt, they were assigned shooters who carried their weapons. The Tsar usually took one of the corner stands, others had to draw lot. At the ruler's signal the master played the 'forward' call. The first *jeger* positioned among peasants in a side cut passed the signal to the next one and within a minute the message was known by the whole shooting party. Then the chase started slowly and quietly, in complete silence. At some intervals signals to stop, even the ranks and go on were played. Behind the proceeding party, the ropes with flags were dismantled in order to be quickly transferred to another place. When the hunters came there, everything was ready again.

After each chase each killed animal was marked with a tablet bearing its killer's name. When the guests departed to another site, the animals were gutted on the spot and the carcasses were transported to Białowieża. Should a wounded bison be left in the

The Białowieża Orthodox Church in 1903

forest, a *jeger* with a bloodhound was sent there to wait until the animal had bled to death.

After the third or fourth chase a break was made for the hunters to eat a heavy breakfast in the open air. The last shooting party was finished early enough for all the carriages to return to the palace gate before dark.

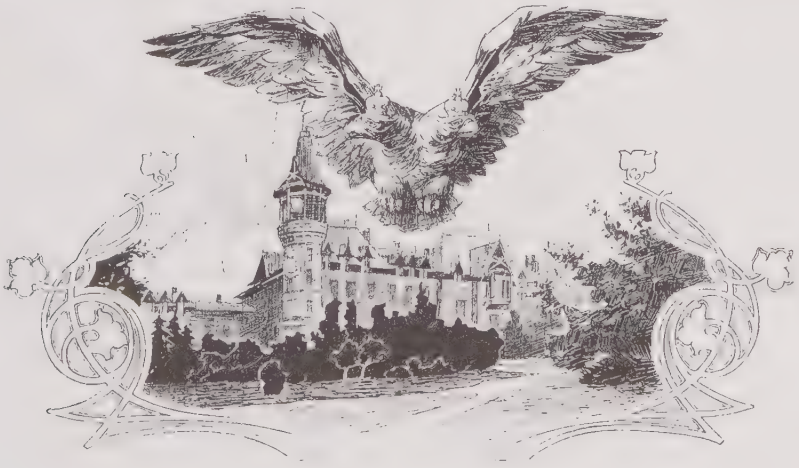
After the celebration of quarry reviewing, which started at seven p. m., the hunted game was taken for butchering. The trophies were fixed to richly carved boards with the information who killed the animal and when. They were hung in the palace interiors or given to the hunters. The meat was distributed among all people employed in service during the Tsar's visit. The meat of young roe deer and wild boars went to the Tsar's kitchen.

Tsar's hunting took place nearly every year. Sometimes it was attended by many Romanovs and took a more celebrated form; sometimes one of the princes came to Białowieża to shoot some game without any celebration. A great hunt was staged in August 1900. In 11 days 680 animals were killed, including 40 bison, 36 elk, 53 deer, 26 fallow deer, 325 roe deer males and 3 females, 138 wild boars, 3 capercaillies, 4 hazel grouse, 4 woodcocks and 51 foxes. Duke Albert of Saxe-Altenburg, who killed 12 bison, 37 bucks and 12 does, 4 fallow deer, 39 male roe deer, 24 wild boars, 10 foxes and 1 woodcock, became the king of the hunt. He caused 139 deaths in one killing spree. In September 1902 Grand Duke Vladimir, the Tsar's uncle, visited the Forest in the company of his wife Marya Pavlovna, who never missed an opportunity to kill an animal. It

took the couple a fortnight to kill 1 bison, 3 elk, 39 deer, 12 fallow deer, 51 roe deer, 36 wild boars, 5 hares, 1 hazel grouse and 3 foxes – 151 animals in all. After their hunting was finished, another 3 deer, 2 fallow deer and 1 wild boar were found dead from wounds.

The last Tsar's hunting in the Białowieża Forest was organized in 1913 to honour the Prince of Monaco Albert de Montignon. The distinguished guest himself killed 2 bison. Two years later during the war, Tsar Nicholas II came to Białowieża for one day. He did not hunt, but went to the forest unarmed. Maybe he had some premonitions and wanted to say goodbye to his dear woods.

For several years now the truth about the tragic end of the Romanov dynasty, which closed an important chapter in the history of the Białowieża Forest, has been publicly revealed. At least 17 of the 60 Romanovs listed in the court almanac were murdered during the civil war in Russia. On the night of 16 July 1918, at the cellar of the so-called Ipatyev House at Yekaterinburg eleven Cheka secret policemen opened fire at Tsar Nicholas II, Tsarina



Alexandra and their children: Olga, Tatyana, Marya, Anastasia and Aleksey. The Tsar's dearest brother Mikhail was carried away to Siberia, where he was shot by the Bolsheviks somewhere in the

forest near Perm on the night of 12 July. He was 39. The Tsar's uncle Vladimir died in 1909, while his wife, 63-year-old Marya Pavlovna – an iron lady – managed to escape from the mass-killing. In spite of her illness, which impaired her walking, she travelled across the whole of Russia and in February 1920 she fled on a ship from Novorossiysk to France, where she died a few months later.

The Plunder

In July 1906, for the second time old tree stands in the Forest were decimated by the nun moth population. Its caterpillars 'attacked coniferous trees like locusts and devoured their needles leaving but bare branches', as the Russian press informed. The plague started in the Świsłocz district and spread like fire to other forest areas. To fight the pest huge bonfires were set, which attracted and trapped great numbers of moths. Trunks were smeared with sticky substances to prevent caterpillars from climbing up to the canopies. But the results were at the best modest and it could be necessary to cut about 660 hectares of trees.

In March 1908 the *Kuryer Warszawski* published alarming news, immediately reprinted by other Polish newspapers: 'The famous Białowieża Forest is to be felled. This action, which only waits for the decision of the highest authorities, is motivated by wrong economy'. They probably had in mind the economy of the whole Russian Empire. Russia, which lagged behind in its economic development, was going through a profound crisis at the beginning of the 20th century. The war with Japan and internal political and social unrest cost a lot of money. Although the Białowieża Forest gave profits of about 180,000 rubles a year, its vast timber resources were a temptation to make quick money. The further sparing of the woods as the private hunting forest of the Romanov family became unreasonable, especially since after the epidemics which decimated

the game in 1910, hunting there was no longer as satisfactory as before.

More information appeared in papers in 1911. 'This spring groups of surveyors, counting men and foresters were sent here. They are carefully measuring all huge oaks, firs and pines and marking them. In autumn their cutting will start. No one needs such thinning of the Forest except those who sell timber and those who buy it: Jews from Szkłów and Berdyczów. They rule here and they roam about the forest without any restrictions, even in the places closed to researchers as hunting areas'.

The tsarist apparatus did not have time to implement their plans, for in August 1915 the German army arrived at Białowieża. First, the occupiers deported the local population to Russia. State officials transported by special trains were allowed to take only

The cutting of the Białowieża Forest

3 sets of underwear and some small personal belongings. Other inhabitants travelled on wagons pulled by horses. The forest villages and settlements were deserted.

1,200 German experts, 3,000 POWs and 8,000 workers were employed at the forest plundering. The first of six sawmills was opened in 1916. In a short time a carpenter's shop, wood-wool and prefabricated building factories, as well as a huge destructive wood distillation works were set in operation. The trucks of a forest train for log transporting were built. In the same year O. Lautenschlager in his work entitled *Bialowies in deutcher Vervaltung* estimated the forest's timber resources with a typically German accuracy as 32,600,000 cubic metres. Of that nearly 5,000,000 cubic metres were felled, processed and sent to the Reich within a few years. The rich forest resources were exploited by the occupiers to the hilt, in a thieving manner: quickly, without any plan, in well-accessible sites and only the best material was taken away. 6,000 ha of forest was cleared completely, 10,000 ha was thinned. In the economic season 1917–1918, 400,000 cubic metres of timber were felled, but it was never dispatched to Germany.

The occupiers fled Białowieża on 20 December 1918. They left the forest plundered and plagued by woodworms, which multiplied in spruces felled but not stripped of bark. They left the ashes of burnt down houses and a military cemetery. They also left their factories and an efficient network of forest railways: over 130 km of permanent lines and 120 km of transferable lines.

During the next two years the political future of the Białowieża Forest was again under discussion. In February 1919 for a short time it came under the rule of the Lithuanian Taryba as the recovered legacy of Gediminas. After the Treaty of Riga it was passed to Poland. When the Polish-Russian war broke out, the Bolsheviks resided in the Forest and their ideology exerted a strong influence on the native inhabitants coming back from exile.

In the late 1920s the Białowieża Forest was taken over by the State Forests Regional Board – from 1923 the State Forest Management – with its seat at Białowieża. It was subordinated to the Forestry Department of the Ministry of Agriculture and State Property in Warsaw. The total area of the Białowieża Forest passed to Poland was 128,937.47 ha, of which 112,000 ha were covered by forests. A makeshift inventory of 1922 estimated timber resources at 23 million cubic metres. Within eight years since 1916 as much as 10 million cubic metres, or one-third of the previous resources had been taken out.

One could expect this price should be high enough to be paid by the Białowieża Forest to the 20th century, and that the Poles, who loved the Jagiellons, would understand that. Not quite! When reading the documents from those years one starts to suspect that the government of the reborn Poland was not sure if the Russified Białowieża Forest would stay long within this country. Their economic policy was reminiscent of that of the Germans, who hurried with plundering whatever they could, knowing that their harvest would end as soon as a peace treaty with the enemy was signed.

1,147 forest units of 0.66 square miles each were divided into 12 forest divisions: Białowieża, Browsk, Czoło, Hajnowka, Jagiellon, Royal, Leśna, Narewka, Oszczep, Starzyna, Świsłocz and the Reserve. These were subdivided into forest districts and round areas. Intensive forest production was started. Forestry experts, who learned their profession in typical Polish forests, not resembling the European primeval forest, were stunned by the richness of primeval nature. They resolved that the whole primeval forest except the German clear cutting areas should be classified as timber or ripening timber forest. As such, it required further intensive cutting, which they called 'the principles of rational economy based on the proper utilization of timber stands'. With no scruples at all they decided to fell 400,000 cubic metres of timber a year for a full decade. It would total 4 million

cubic metres, i. e. 50% more than any norms binding in Polish forest management.

Polish botanists led by W. Szafer were horrified. They somehow managed to win the legal protection of 4,640 ha, or 4% of the forest area. It is thanks to them that today Białowieża National Park is famed all over the world as the only authentic primeval forest in Europe.

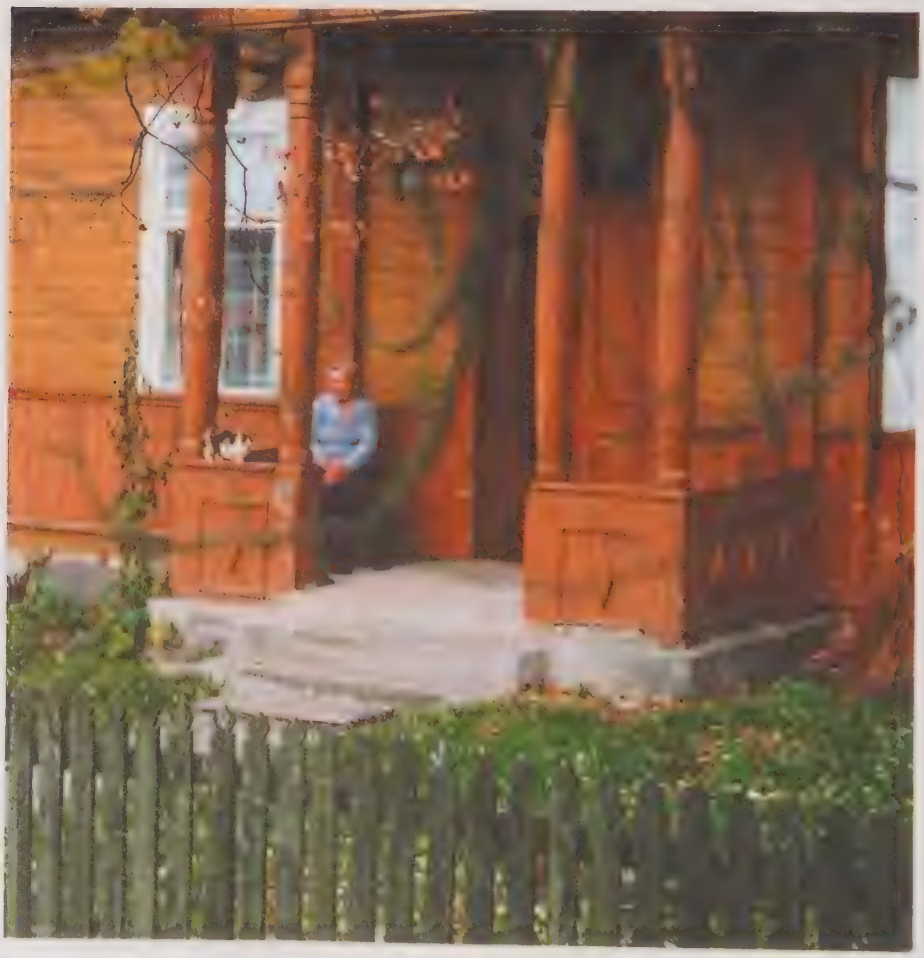
One of the stories told by foresters and the proponents of the myth that the past generations took the utmost care of the Białowieża Forest concerns the Century company case, a discredit to the Polish government. The false (though still offered) explanation was that in the 1920s the nasty English capitalists cheated the Polish state by not keeping the terms of the contract. They reportedly exploited the forest doing clear cutting of the most valuable old tree stands and not replacing it with new forest. According to later statements of the Ministry of Agriculture high officials, they 'failed to hand over the cleared areas before 1 March of the third year of logging and instead of seed trees they left the less valuable hornbeam'. The Polish side broke the contract immediately after the abnormalities were discovered. The areas of poor-quality tree stands, including birch, aspen and hornbean are still described as 'post-Century' clearings. But the truth found in professional periodicals from the years 1920–39 is utterly different.

In 1920 'the Polish administration faced the serious task of reforesting logged areas and clearings, but in the first place of removing overmature tree stands, which would continue to lose their value if they were left standing. That is why in the first few years the area of reforestation was relatively small'.

Turning the Forest which the tsars saved into boards was an extremely profitable business, which however required a lot of investment. Poland, devastated by the period of partitions and wars, had no financial means to start it. A solution was eventually found. In mid-April 1924 the Polish government signed

a contract with the British company named the Century European Corporation. The contract was widely known as the sale of the Białowieża Forest. On 17 October 1924 Białowieża National Park manager J. Paczoski informed that 'a 15-year norm of forest cutting was sold to be realized in 10 years'. The economic aspect of the concession was sharply criticized by Professor Rafalski, a forestry engineer (*On the Current Issues Concerning Polish Forests*, Poznań, 1924).

The English were granted the concession to cut 7,200,000 cubic metres of timber in the Białowieża Forest and the forests on



The Białowieża building style from the period between the two world wars

the Niemen River. In the Białowieża Forest alone it was 4 million cubic metres within a decade. In the first year almost 2,000 ha of forest was assigned for this purpose.

The plan envisaged that after a decade of the company's activity timber reserves would amount to 17 million cubic metres, which was only a half of those in 1916. 'The annual amount allotted to the company is felled by the company itself, paid for according to the settled price, and firewood is left on the clearing'. It should be noted that Century took only valuable timber, while firewood remained the property of the State. However, Poles had to collect it themselves, cover the costs of the cutting and add 15% for administrative expenses.

The contract stated explicitly that the tree stands should be cut clear with only seed trees and monuments of nature and other curious trees being left. The cutting areas should form 50–100 metre-wide belts running from south to north. They should proceed eastwards or westwards according to the prevailing winds'. There was not a word on reforestation. Corruption was not invented in our times. I believe someone must have taken a large sum of money from the Century company for an appropriate formulation of the contract.

Professor Paczoski pointed out that the German logging, 'chaotic and wasteful' as it was, left the Forest with a chance to naturally reproduce, while with clear cuts reforestation was necessary from the biological point of view. But in the Białowieża Forest it was very expensive. The reforestation of 1 ha with pine cost 250 złotys and would require the increase of forest nurseries, and staff, and the collection of vast quantities of seeds. In 1924 only 314 ha were reforested with pine. 4,768 ha of clearings left by the Germans were still untouched. When Century entered the scene, they were to add 1,500 ha of bare soil a year. Professor Paczoski then wrote helplessly: 'Since we won't be able to make up for all that, we have to accept the prospect of vast areas of the Forest turning into birch thickets

as a result of improper exploitation; they will not be replaced by standard types of forest until several hundred years have passed'.

Considering that, it is obvious nobody intended to plant trees in the cleared areas of the Białowieża Forest. In 1924 Polish experts and decision-makers consciously condemned it to annihilation, quite naively calculating the lucrative business would bring in the income of some ten million złotys per year to the state.

Five years later in 1929 they lost much of their enthusiasm. The Polish foresters saw with their own eyes how the clearing of more and more areas of forest damaged the habitats and increased swamping. No intervention took place, though. It was accepted that much more environment-friendly selective cutting could not be introduced before the termination of the contract in 1935. The company went at full blast. They leased the Forest, its railways along with trains, sawmills and other industrial works at Białowieża, Hajnówka and Sowiny. The exclusive Centura housing development was built at Białowieża for the English engineers.

The production included pine, oak and ash sawn wood, veneer logs of alder, aspen and birch, as well as other logs of these trees and of spruce and hornbeam. Spruce pulpwood was also produced in large quantities both in logs and chips. Other products were split logs, parquet flooring, railroad ties, sleepers and shingles. The local people bought deadwood and debris. They also bought defective products left by the Century company at the clearings after they finished logging.

The business thrived for five years. Suddenly someone saw through it and the Ministry of Agriculture unilaterally broke the contract on 29 May 1929.

The reason for that decision was publicly announced in July 1929. 'On the basis of the evidence in their possession, in consultation with the Office of the State Attorney, the Ministry has

ascertained that both cardinal terms of the contract, i. e. the payment for timber in due time and the prohibition of transfer of the company's right to third parties, were infringed by the Century company, thus giving us the reason to terminate the contract'. Not a word was said on the Forest devastation, lack of reforestation on clear-cut areas, or seed trees. These subjects were not raised until many years later.

Showing their righteous indignation, the Ministry requisitioned a 50,000-pound sterling cash deposit as guaranty and the whole stored timber. The company was given three months to return the leased property and leave the Białowieża Forest 'with all persons and things'. It also turned out that instead of attracting foreign capital to Poland and its investing in the country's wood industry, no investments were made by the English in the local sawmills and factories, and they even resold their concessions with profit to other companies in Poland and abroad. Timber stayed at home instead of going to the West, which

The Białowieża building style from the period between the two world wars

brought about the rapid decline in its commercial value. Bluntly speaking, if Century had fulfilled the financial obligation of the contract, it could have continued without any obstacles to annihilate the Białowieża Forest under the terms of contract.

The ending of that classic scandalous business was most striking. The Poles, threatened with a long trial, after several weeks' negotiations agreed to new terms: in exchange for cancelling the contract, the government of the Republic of Poland paid a mind-boggling sum of 375,000 pounds sterling to the English company. According to contemporary journalists it equalled at least 18 million złotys, while the decision-makers from the Ministry claimed it was only 6.2 million, of which 1.5 million złotys were deducted for the taxes unpaid by the company. Why did we pay that? Simply, 'the Ministry recognized as more advantageous to pay compensation to the company and start its own management and exploitation than to wait for a dubious judicial verdict, which would hamper any further use of the forest'.

The revived Polish State managed well without any help of Century and foreign capital. The annual timber production not only was kept up, but also broke the historic records of the German and English by 23% in the years 1929–1932.

The fact that the State Forest Management was based at Białowieża as well as the rapid growth of the forest industry attracted a lot of workers, clerks, all sorts of entrepreneurs, salesmen and craftsmen from various parts of Poland. Many of them settled at Białowieża with their families. New houses replaced old peasant cottages. The local inhabitants who returned from war exile sold plots of land to obtain money for a new start. The former tsarist village was quickly transforming into a large settlement populated by a cultural and ethnic mixture. The Orthodox Church, which used to dominate until then, gave way to the Roman Catholic faith. In 1924 the number of Catholic Poles reached 1,200 and a separate parish was established for them,

with the parish priest Rev. Józef Dowgiłło. An idea was born to build a church, as the chapel arranged in the former dining hall of the Tsar's palace was too small to contain all the faithful. Donations were made and a year later the church construction was started. It was completed together with the parish house in 1933. Also a small synagogue was built.

The number of accommodation places, bars, shops and craftsmen's workshops as well as job opportunities kept growing. Employment was available all the time in the logging industry. In the mid-1930s some 5,000 workers were employed in the forest and its wood factories. Together with families they amounted to over 20,000 people who made a living from the forest. A half of the employees worked for the industrial enterprises at Hajnówka, whose output amounted to 240,000 cubic metres, i.e. 12,000 wagons of timber. The other half worked in the forests.

Fine-style wooden houses were built for foresters, forest inspectors, rangers and other administrators. 189 settlements were constructed at the total cost of 4,255,478 złotys between

Białowieża

1921–34. In 1936 their number grew to 383, statistically one for about 830 ha of the forest. It was planned to built another 365, which would make 424 ha of the forest for one dwelling.

Despite such a high expenditure on infrastructure, the Forest guaranteed a handsome profit and the good financial results were due exclusively to its rich resources of timber stands.

In the whole period between the two world wars, on the sovereign decision of the Polish authorities 20,000 ha of natural tree stands of the last lowland primeval forest in Europe were cut off completely: 8,000 ha by the Century company, 6,500 ha by Polish foresters in 1920–24 and another 5,500 ha in 1930–1939.

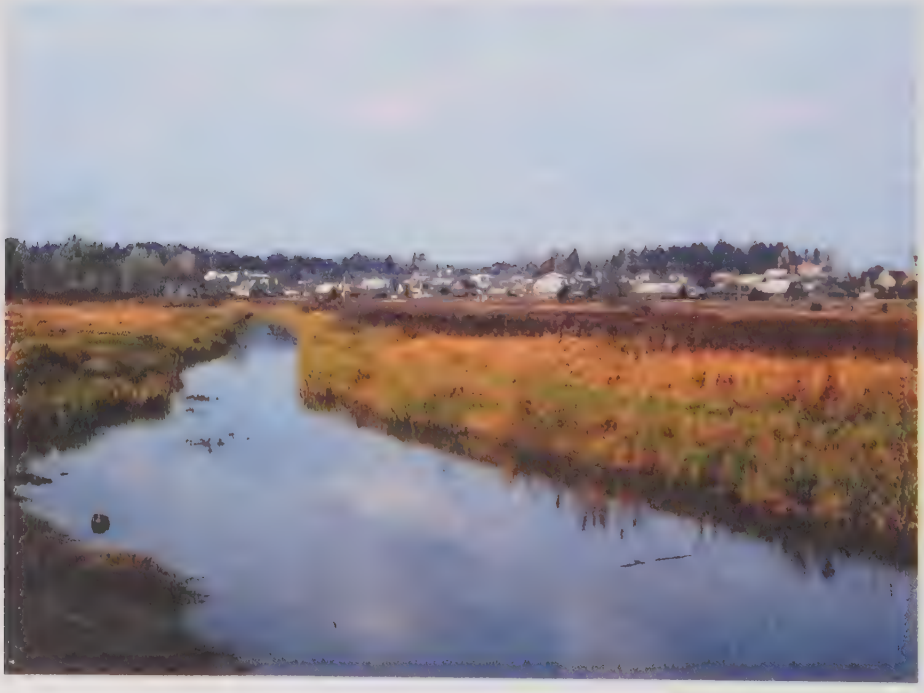
Church at Białowieża

The primeval Białowieża Forest was characterized by a considerable saturation of the terrain with water, which was one of the reasons it could survive as long as the 20th century. Although some land drainage was carried out in the 18th and 19th centuries, swamps and marshes still comprised more than 80,000 ha when the revived Poland recovered the Białowieża Forest. The largest, Wiadotupickie Swamps in the watershed between the Jasioła and Szczara Rivers extended over 13,000 ha. Of other swamps, Dziki Nikor occupied 1,200 ha, Domałka 1,000 ha and Jałówka about 900 ha. Besides, every forest division had numerous smaller swamps and marshes. The wild, meandering forest rivers and rivulets had a total length of over 400 km.

In 1929, right after the department of Forest Administration and Land Drainage was set up, the State Forest Management at Białowieża embarked on a project of a radical drainage of the Białowieża Forest, which included the regulation of 15 km of the Narewka River in the Nikor, Białowieża and Grudek divisions and the construction of a 9 km long navigable canal to the Narew, the drainage of the unique swamp communities of Głęboki Kąt (part of Dziki Nikor) and the quaking bogs: Wiadotupickie, Domałka and Jałówka, only because they did not bring in any profit. Moreover, bigger or smaller ditches to drain off water from stagnant forest lakes were dug everywhere. Some works on the project were done before the onset of the economic crisis. They slowed down for a time between 1931 and 1933, but then they were resumed at full speed. In 1936 hydraulic engineer Józef Kucharski supervised the planning out of the works, which began in May 1937. With the kind support of the central authorities, the irreversible act of destroying the unique beauty of the Dziki Głęboki Kąt swamp was perpetrated by 300 men (unemployed and smallholder peasants brought from different places). Singing songs for the masses, day by day they drove piles to the ground and dug drain ditches, reclaiming

land from the swamp. In four months they dug 8.5 km of main ditches, 6 km of secondary and 2 km of roadside ones. Five sluices and five culverts with gates were built. The whole – from a wider perspective – ecological savagery was done in order to change 736 ha of impenetrable swamps into 'fertile meadows, which when cultivated and sowed with grass would improve the well-being and health of poor villagers'. Although the Dziki Nikor swamp was irreparably destroyed, the local inhabitants did not grow rich at all.

The inevitable consequences of those actions and the work continued after the last war on both sides of the Polish-Belorussian border were not fully visible until a few decades later. The digging of ditches across fens and marshy meadows, the drainage of swamps, peatbogs and farmland on forest meadows, the regulation, deepening and straightening of the local river channels of the Narew, Narewka, Pierewołka and Biała, as well as



The regulated Narewka River

the construction of the Siemianówka reservoir brought about a number of unfavourable changes:

– the groundwater level in the Białowieża Forest dropped;

– the wet swampy forest area was reduced three times;

– the drainage of 3,371 ha disturbed the ecological equilibrium of the area and successive pest populations attacked the weakened dry tree stands, the spruce bark beetle in particular;

– after the drainage of the Dziki Nikor swamp the irreversible destruction of many biotopes occurred on an area several times larger than expected by the self-assured technocrats.

The engineers claimed that the groundwater level would only drop at a distance of 0.5 to 1 km from the former swamp. In fact, the drainage area stretches as far as ten kilometres in all directions. Little forest swamps, lakes and streams have disappeared. The annual flow of rivers and the groundwater level in the strict reserve of Białowieża National Forest have dropped dramatically. Centuries' old trees are becoming dry. They cannot take water, as their root systems were developed in the times when it was available nearer the surface. Water birds and waders have vanished, as have fish. Waters can no longer purify themselves...

All the projects undertaken before the last war at the cost of 78,000 złotys were aimed at one objective: 'the increase of work efficiency and the intensification of forest economy'. The leading motto was: 'No natural treasure of the Forest should be wasted'. As the reserves of logged trees providing the first-class raw material for sawmills were growing, the decision was made to build a basin for storing logs in water till they were sold and shipped. A site, now known as Topiło, was selected in the Biała and Starzyna divisions on the Perebel River.

The works started in September 1936 and proceeded at a record rate. It took only three months to prepare the terrain, build a dike and a system of sluices, and to dam the water. The opening ceremony of the completed structure took place on 28 November that

same year. It was performed by the State Forest Manager at Białowieża, engineer Karol Nejman. The three-metre-deep basin occupying an area of over 8,000 square metres could contain 24,000 square metres of coniferous logs skidded from the Biała, Starzyna and Leśna divisions.

Then the Second World War broke out and everything was stopped.

In September 1939 the whole Białowieża Forest was annexed by the Belorussian Soviet Socialist Republic. Like in 1915, trains full of Białowieża inhabitants departed to the east. Within the year that followed an equivalent of a three-year pre-war timber output was robbed from the forest. The Belorussians knew they had to hurry. In June 1941 the German army arrived at Białowieża. Instead of axes and saws they had firearms. The Białowieża Forest along with other woodlands of the Białystok and Grodno regions was proclaimed a *Reichsjagdgebiet*, or government hunting grounds. That saved its tree stands from further robbery for the umpteenth time.

It was Joseph Stalin's decision to annex the whole Białowieża Forest to the Belorussian SSR. He met the delegates of the Polish Committee of National Liberation (PKWN) led by E. Osobka-Morawski in Moscow on 25 July 1944. Other delegates were A. Witos, J. Grubecki, B. Drobner, M. Rola-Żymierski and M. Minc. They were to negotiate the eastern and northern borders of Poland. According to a historical anecdote, Stalin, bent over a map, was about to draw the new borderline, when the Polish communist Bronisław Drobner moaned with disappointment, 'And where am I going to hunt?'. So Stalin, who had a weakness for the man, shifted the ruler a bit and a red line cut the green patch on the map in two. Thus the present time began in the Białowieża Forest.

The forthcoming present day would have its pros and cons. The successive years would bring the establishing of new nature reserves and the doubling of the national park area. The Statute of

the Białowieża Forest would be introduced and the Promotion Forest Complex would be formed. The oldest trees would be protected. The ecological awareness of society would grow, the unique value of the natural forest would be appreciated and the will to protect it would be declared. But this period would also have its dark sides, such as jacked-up plans for timber felling, woodworms and trees fallen in storms, rapidly increasing culture areas emptied of forest, dozens of mechanical saws and ever more efficient ways of timber transporting, able to carry thousands of cubic metres of unscrupulously cut trees out of the forest. A tall, many kilometres long barbed-wire fence and a belt of ploughed earth would cut the forest environment to divide two Slavic nations. All these were still to come.

Administrative division of the Białowieża Forest
in the period between the two world wars

- Villages and settlements
- Standard-gauge railway
- Narrow-gauge railway
- Surfaced roads
- Unsurfaced roads
- Forest division boundaries
- Starzyna — Forest division names
- Forest administration seats
- Topiło — Swamp areas

The Polemic

'Attila's horse was said to possess the kind of power, which made the land he crossed become bare. Modern progress has the same deadly properties. Where are the bearded aurochs and bison that inhabited the whole of central Europe? Their last remnants have survived in the Białowieża Forest and even that isn't certain. Elks, of which Caesar wrote in his sixth book of *De bello Gallico*: '*Sunt item, quae appellan tur Alces*', have been preserved only in East Prussia and maybe a few individuals somewhere in Samogitia. Herons are killed off legally, because they catch fish, the magnificent birds of prey – because they hunt pigeons. The white stork, an ornament of our meadows and cottage roofs, as well as the very rare black stork are considered to be pests, and water birds are shot just for fun. In the same manner plants are thoughtlessly vandalized. Lily of the valley, for example, has disappeared from many of our woods and the magnificent Swiss stone pine is a rarity in the Tatras.'

After this introduction, the speaker, who represented the world of culture, stopped for a while and his bespectacled eyes swept round the crowded audience. Some people were nodding with approval, others were taking notes; a great number of those who were in opposition were showing their agitation, murmuring something and readying themselves for a major counterattack. Not discouraged, he continued:

'Men treat the Białowieża Forest, the most splendid monument of nature, in a barbarous way. Armed with modern technology, they force their way into the pristine backwoods with the cynicism of American colonists. The flora and fauna have became victims of their carelessness and ruthlessness. Those immense forests were a source of inspiration

for great painters such as Grottger, Fałat and many others. Shouldn't we save at least a small part of those sacred places for the artists of the future? They are sentenced to death by the fever of modern life before their past has had a chance to convey its message to the future.' He stopped to take a breath and raised his voice: 'And the human predators are close by, immune to beauty, ready to destroy the Forest... After their visit, a graveyard of stumps is left... If some sensitive people and the authorities don't give the forest a helping hand, not only bison, aurochs or elks, but also deer will only be met in a zoological garden.' Then he quietened down. 'Luckily, we already have an institution for protecting living monuments. It's the State Commission for Nature Protection, a body of the Ministry of Religions and Public Education. For a long time now it has been working on a project to preserve the natural treasures of the Białowieża Forest,' he finished with hope in his voice and left the rostrum.

Next spoke a representative of the Ministry of Public Works, an engineer and economist. Quoting rows of figures, he explained in a detailed, verbose style: 'According to the latest estimates of the value

'Windfallen trees' by J. Chełmoński

of the Białowieża Forest, tree stands cover 128,000 ha, of which 8,000 ha are swamps, fields and roads. The forested area contains 31 million m^3 of young standing trees and 60,000 m^3 of worked logs. Large numbers of wooden planks fill the storehouses. Also, office and factory buildings, machines and forest railways are of considerable value. It must be assumed that the total value amounts to at least 50 billion marks. In the face of such great advantages from forest production, while the state struggles hard for its survival and economic independence, when we have no means to rebuild our devastated country, it would be too great a sacrifice or even recklessness to leave millions of cubic metres of building material standing in the forest. Nevertheless, we must not continue the wasteful forestry practices based on the German model. On the contrary, we should leave part of the Forest intact, as a research area for our naturalists'.

After this pragmatic and objective speech, the friendly part of the audience gave pleasant looks to the chairman of the State Commission for Nature Protection, Professor Władysław Szafer of the Jagiellonian University. He was the author of the detailed project of the protection of the Białowieża Forest.

The scientist firmly climbed onto the rostrum and to begin with he announced: 'Taking into account the sorry state of our current economy, the Commission consisting of the most prestigious persons has reduced to a minimum the protection of privileges due to science and to the future. It demands only a small portion of the Białowieża Forest to be saved from cutting and an inviolable natural park to be established like in all other civilized countries of the world'.

Rapturous applause followed. The professor, as if he did not hear, elaborated further on the subject. He cited examples of how to arrange forest reserves and natural parks, of which the most magnificent, Yellowstone, was established in the United States of America in 1873. He spoke about the heaths in Jutland protected from 1903, and about Sweden and Norway, which had protected their most beautiful mountains and glaciers since 1910. He told them about the national park in the wild Val Cluosa valley in Switzerland and three German parks: near

Hamburg, in the Harz range and in Styria province, set up in 1909–1914. Even the backward Russia had some large reserves of primeval steppes, forests and mountains before the last war!

'Today, when we have regained our independence', he argued, 'it is time to establish nature parks, which would preserve the beauty of Polish primeval territories and provide a habitat for the perishing flora and fauna; which would offer a site for the unhampered research of naturalists and foresters as well as a place for the studies of school youth and artists.'

He turned round to the large map hanging on the wall and went on speaking zealously: 'A nature park in the world-famous Białowieża Forest would be the most unique and unmatched in Europe. What a multitude of scientific mysteries could be unravelled when the forest backwoods are studied closely. The Forest left in its natural state will not only provide solutions to purely theoretical natural issues, but it will also enable Polish foresters to observe the process of natural forest renewal and the biology of trees, forest and animals. As a result, it will earn entirely practical profits of unpredictable economic value.' He stressed the last words with a gesture. 'The scientific studies undertaken by our generation will be carried on by succeeding generations, better equipped than us and facing new problems to solve.'

Everyone's attention was focused on what would be said next. The professor looked in his notes. 'There is the question of how much of the Forest should form a reserve. The Commission is proposing that of all 1,147 sections of the forest 42 should be assigned for a strict reserve. This area, mostly belonging to the Augustowska guard and surrounded by rivers on its three sides, is almost untouched by human hand. The reserve will border the north side of the Białowieża Clearing and the Narewka River. The project also anticipates a number of partial reserves: the Zamczysko range, Bathory Hill, a stretch of forest from the Białowieża Clearing to the former Game Park and the tiny Cisówka with its huge firs.'

Point after point, biotope after biotope and species after species, he discussed the unique natural values of the planned reserve and the ways

of their protection. His speech ended with an appeal to the government of the Republic to 'take into consideration the wise plan of the Commission and by saving a part of the Białowieża Forest to create a memorable monument to the advantage of Polish science.' Loud applause drowned out some discontented voices.

The next debater was an excellent speaker, a lawyer well known in the country. Not restraining his irritation, he almost ran up the rostrum and started without any introductory courtesies: 'I am a fervent supporter of creating floristic reserves, but a firm opponent of depriving hunters of these territories. I have a number of important reasons to object to the thesis that hunters are not qualified and the management of the areas should be passed to other, more competent institutions. I consider it to be necessary to oppose the introduction of new principles, advocated vigorously and proselytized by the followers of the "new religion" of environmental protection. These principles include "an absolute protection of animals", leaving nature "to itself", "non-interference in evil" and "no killing of predators". The principal law of a reserve forbids shooting, that is, it rules out "breeding with

'Oaks at Rogalin' by L. Wyczółkowski

a rifle" recognized by proper hunting. Nature has to cope itself with ill and degenerate specimens. Shortly speaking, man's interference in nature has already gone too far. The land and the prospects of its exploitation are too crucial for the economy to leave its vast territories "to themselves" and to create "reserves" in order to preserve "dying--out" species of game here in Europe. The whole erroneous idea has been borrowed from African and American countries, which possess large expanses of land or wealth. Our present conditions do not provide the means for their maintenance and here the word "reserve" becomes empty of meaning. Such reserves are absolutely useless in this country. Adequate laws and proper management of hunting grounds are more than enough to save the dying-out species and make them flourish, for as regards the protection of fauna, no better way exists than proper hunting. Do we need to look for other ways and other gods? What can they offer? And where do we find the means to finance new expenses?'

The lawyer straightened his invisible gown, made two steps backwards and thundered: 'The world of hunters can fulfil its obligations and we shall not allow anybody to do it for us. We shall not let anyone take the victorious standard of St Hubert away from us!'

Instead of the storm of applause he expected, some giggles of the amused audience were heard...

The fragments of speeches of the participants in the discussion on the protection of the Białowieża Forest and the creation of the first Polish national park are not a literary fiction. They are quotations from authentic speeches of some high-ranking officials in the 1920s.

Public opinion became interested in the Białowieża Forest in around 1905, when the Polish Country Sightseeing Association was established in Warsaw, presided by A. Jankowski and K. Kulwicki. Many groups of schoolchildren and tourists began to visit Białowieża. Tourism stopped with the outbreak of the First World War.

In 1915 an idea was put forward by German naturalists to establish a nature park in the Białowieża Forest. In the following year, Professor Hugo Conventz, the famous proponent of environmental protection, known in Europe and America, came to Białowieża. His ideas stirred the intellectual life at the dawn of the 20th century. Thanks to his intervention, bison were better protected by the Germans and the 'nature park' comprising the most beautiful tree stands near the Orłówka River was excluded from the total plundering.

The military power of Germany collapsed in 1918–19. The Polish army entered Białowieża in February 1919. As early as in April, despite the difficulties caused by the Ministry of State Property, an expedition of scientists was organized in order to estimate the war losses of local forests and animals, including bison. Professors W. Szafer and E. Kiernik and the director of the Forestry School in Warsaw, W. Kloska, participated in the expedition. What they saw gave them a terrible shock: the Białowieża Clearing was deserted, people lived in dugouts and starved. Armed gangs of German soldiers and local poachers ruled the forest. It was very easy to kill game. After many years of unnaturally high numbers of animals, the forest was completely devoid of the understory of lower trees and shrubs. People could just stand in a line and shoot into the forest with machine guns at a low height.

Then they moved en masse and collected the killed game. In this way they killed off almost all elks, fallow deer and bison, and most of deer and wild boars.

In spring 1920 another scientific commission came to the Forest, consisting of Professors W. Szafer, E. Kiernik, B. Hryniewiecki and S. Kulczycki, M. Orłowicz D. Sc. and J. Lilpop D. Sc. The expedition was made thanks to the help of the contemporary minister of agriculture, Professor F. Bujak. Its aim was to decide where, if at all, Białowieża National Park should be established. After their return to Warsaw, the Commission worked out the first draft of the reserve arrangement. On 22 November a written proposal was submitted to the Ministry of Religions and Public Education. In December *Sylwan* published a paper by Professor Szafer entitled 'The Project of the Reserve in the Białowieża Forest'. From then on scientists could find an ally in society and demand from the government the protection of the small section of the last natural lowland forest in Europe.

Professor Władysław Szafer

Years later Professor Szafer recalled: 'I must frankly admit that when we were beginning those efforts, neither I nor any of my colleagues expected it was the beginning of a hard struggle, which would last many years.' Professor J. Paczoski, the first manager of the national park, described it in a similar way: 'After long and painful efforts, not because the idea was not

considered important enough, but because of the strange and entangled social relations which often make a simple thing a time-consuming task even if it enjoys the support of the authorities, the National Park at the Białowieża Forest has finally been established.'

In my view, Professor Paczoski was wrong: it did not enjoy the support of the authorities. On the contrary, they did their best to block the effective protection of 3% of the area of the unique natural monument.

The Ministry of Agriculture was the first to lodge an objection to the formation of a reserve. They argued that the Forest was devastated and plagued by bark beetle and the safety of its animals required the continuous management of the whole forested area. The opposition kept growing in force.

In order to look after the forest business better, on 1 April 1921 it was decided to create the State Forests administrative centre at Białowieża and the Bielsk district. The buildings left from the tsarist period were perfectly fit for the purpose. However, a month later other officials turned up eager to use the backwoods: the Chief of State office wanted to arrange a hunting ground for the head of state. The scientists supported this idea, thinking (naively, as it soon turned) that animal breeding and hunting could not go hand in hand with overexploitation of forest timber.

In those circumstances a third expedition was made to Białowieża in September by Professor Szafer accompanied by Professors S. Sokołowski and B. Hryniewiecki. The Commission started to designate the boundaries of the future reserve.

On 29 December 1921 at the specially convened conference in the Forestry Department of the Ministry of Agriculture the decision was made to form a 'reserve of a national park character' in the Białowieża Forest. That decision, however, was not tantamount to the actual park establishment and its legal protection.

At the conference Professor Szafer, a delegate of the State Commission for Nature Protection, presented his own project alongside that of the Forestry Department's. After a discussion, three strict reserves were approved. One in the Browsk forest division, which was to comprise only seven units: 258, 288, 289, 318, 319, 344 and 345 – a germ of the present Białowieża National Park, and two small reserves: of pine in the Królewskie (Royal) forest division (units 814 and 836) and of fir at Cisówka (unit 561). At the same time two partial reserves were formed: in the Browsk and Hajnówka divisions along the Hwoźna River (units 221 and 253) and the 500-metre belt of forest along both sides of the road from Białowieża to Zwierzyniec. The removal of fallen coniferous trees in partial reserves was allowed 'because of the danger of insects', while fallen deciduous trees could be removed without any justification, but it was recommended (though not ordered) to leave them in places where they could provide habitat for some species of fauna and flora.

But when we compare the area which was finally left as consolation for future generations of Poles with the area to be exploited to the hilt by the Century company, after all those years it is still hard to contain one's anger.

In January 1922 the report from the scientists' visit to Białowieża was submitted to the Ministry and the commission went to the Forest again in the same line-up plus several foresters. Their final report contained many remarks criticizing the massive logging done by Century.

In August, Professor Szafer in cooperation with the widely respected Jan Gwalbert Pawlikowski of Zakopane prepared two legal documents: the organizational statute of the National Park Commission and its regulations. At about that time Professor Józef Paczoski came to Poland. The great scientist, expert in the history of the flora in Poland and the Polesia region and the precursor of phytosociology, had managed the famous steppe animal

reserve Askania Nowa for many years. The professor agreed to spend part of the year at Poznań university, where he was to run the botanical department, and part at Białowieża as the director of the park. The ministry was by no means enthusiastic about the candidature of such a renowned scholar as a guardian of the reserve and his nomination was postponed for all kinds of reasons. But Paczoski did not wait. He started the research and laid the foundations for the future nature museum.

The professor continued his creative work for the following two years while the ministry pretended that no statute or regulations had been submitted to them. The world-famous scholar was treated as a simple forester. They interfered with his work and made life difficult for him.

Professor Józef Paczoski

Inevitably, it ended in a conflict. Despite Paczoski's ban, one day the State Forests commissioner Taborowski and his boss, Chief of the Regional Board at Białowieża, Stanisław Zaniewski, made a triumphal entry to the strict reserve in two limousines full of VIPs. That was too much for the professor and he resigned.

A scandal erupted. Immediately, letters of protest and indignation flowed to the authorities in Warsaw from scientific organizations from the

whole country. Cautious attempts to persuade the professor to return to Białowieża lasted for several months. The clever scholar dictated rigid terms: the immediate approval of the national park organizational statute. However, the ministry continued their evasive policy. In 1925 they presented a draft of the statute differing considerably from the one submitted. It was altered so that it made impossible the establishment of a park at all, e.g. all decision-making lay in the hands of the State Forests director.

The Chief of the Regional Board made a show of who ruled at Białowieża. Taking advantage of Paczoski's absence, in February 1926 he started to sell deadwood from the reserve. He fired the curator of the Nature Museum. This caused another avalanche of protests from the Commission for Nature Protection and ordinary people. Another statute of the park was presented by the ministry, as harmful for the Forest as the previous one. Professor Paczoski threatened to resign again.

Fortunately, some changes occurred in the Ministry of Agriculture and State Property. Professor Jan Miklaszewski, a forester, scientist and enlightened man, became the director of the forestry department. Both he and his assistant, an experienced forester W. Stankiewicz, favoured the idea of a national park. However, the chief official at Białowieża did not intend to give up. He still treated Professor Paczoski as one of his lower staff.

The next act of the drama took place in 1928. The national park-in-the-making was struck by the inspection of the State Forests office, carried out by inspector Leon Biehler. As it could be expected, it officially confirmed the plague of bark beetles (which was not true) and the presence of a lot of deadwood. The inspector pointed out that the further existence of any reserves would bring about a natural disaster. In answer to the report made by Biehler, the newly appointed Director of State Forests at Białowieża, a 'proud dignitary' Antoni Sym, fired Professor Paczoski without any notice on 31 July.

The Commission for Nature Protection made a detailed inspection in the Forest and proved beyond all doubt that Biehler's inspection and his final report were a vicious slander.

There followed for many years a struggle of Polish universities and the State Council for Nature Protection to rehabilitate the famous scientist, a man of the highest integrity, and to enable his return to Białowieża. All was in vain. The only satisfaction that the elderly man obtained for his moral injury was the letter of April 1929, in which a high-ranking official from the Department of Agriculture and Nature Protection in consultation with the Minister of Agriculture thanked the professor for his work. His return to Białowieża was out of the question.

Immediately after the dismissal of Professor Paczoski in August 1928, Jan Jerzy Karpiński was appointed forest inspector of the Reserve and manager of the local forestry school at the same time. A graduate of the Forest Institute in St Petersburg, he carried out

The strict reserve of Białowieża National Park

research and pedagogical work in Polish secondary forestry schools from 1919. To the disappointment of the Białowieża State Forests management, he was 'no better' than his great predecessor. He did his best to follow in his steps and he was reprimanded nearly as often as the professor. In 1929, ignoring director Sym's vigorous protests, Karpiński built a symbolic gate to guard the entrance to the national park from the Białowieża Clearing. The gate has survived to today.

In 1930 and 1931, under the next director of the State Forests, Stefan Modzelewski, the efforts to win a decent statute for the park were continued and a year later the goal was attained.

The official gazette *Monitor Polski*, of 11 August 1932 published the decree of the Minister of Agriculture and Agricultural Reforms on the establishment of an administrative unit called the National Park of Białowieża. On its territory, covering 4,693.24 ha, a total ban on any interference in the life of the forest and its animals was introduced and is still in force today. J.J. Karpiński was appointed its director and remained at the post till 1952. Before the last war he had already laid the foundations of a strong research centre, which grew to represent a very high level in the years 1944–1952. Karpiński directed the Forestry Research Institute department, which comprised Białowieża National Park and the animal reserves, the Forest Nature Museum with a scientific library and five research stations.

It really is shameful, but Polish scientists had to fight with Polish foresters for many years to preserve a minute part of the Jagiellonian legacy for future generations. It took a great struggle to save the trees of a mere four per cent of the whole area of the Białowieża Forest, at that time still immensely rich in timber, from being turned into logs. The Forest was so rich, that despite the fact that it was plundered for the 60 years that followed, it still yields timber to us.

Street names at Białowieża honour the Mazurian tar distillers and beekeepers. There are Field, Park, Garden and Sport roads.

Streets were named after the Russian general who seized the Białystok region with the Red Army and the local leader of the Communist Party of West Belorussia, who sparked off worker strikes in the 1920s. There is a monument to the heroes of the fight for 'Freedom and Socialism'. Only the merits of Professors Paczoski, Szafer and Karpiński have not been honoured in any symbolic way. The inhabitants of Białowieża do not see the need to pay respect to those three men who made their village win international renown and to whom they owe their affluent life as compared with other, poor villages of the region.

The decree of the Council of Ministers of 21 November 1947 confirmed the prewar act and the reserve of 4,716 ha in area was given its present name: Białowieża National Park. On 19 January 1957 the Minister of Forestry convened the first scientific council of the Park. On 17 January 1977 Białowieża National Park was recognized by UNESCO as a world biosphere reserve and it has been on the World Cultural and Natural Heritage List since October 1979. In 1991 the sovereign Republic of Belarus granted the status of a national park to its whole territory of the Belovezhskaya Forest. In Poland, the area of Białowieża National Park was almost doubled on 16 July 1996, but it is still less than 20% of the whole Polish portion of the Forest.

In the year 2000 the struggle of the environmentalists continued and it was not certain if the greatest natural treasure of Europe would be wholly preserved for future generations.

The Restoration

The honorary president of the Polish Branch of the International Society for Bison Protection, Mr Janta-Połczyński, finished unpacking his luggage. The six-hour-long night journey from Warsaw in the company of Professor Wróblewski and Jan Żabiński did not drag at all. The gentlemen were so immersed in conversation that it did not stop until at dawn they saw the Białowieża Forest outside the train windows. The silence that followed gave them some time to think.

There were important matters to think about. When the first bison were let out into the Białowieża game park, a wave of arguments flooded the press. The localization of the animals was questioned in face of such dangers as fluke disease or poaching. The State Council for Nature Protection, represented by Professors Szafer, Domaniewski, Karpowicz, Pawlikowski and Roszkowski, expressed the opinion that Białowieża was not the right place for bison. Here, they could only be crossbred, while pure-blood bison should be placed somewhere else – in two places, so that they would not be all lost in case of an epidemic. When the herd was increased it would be time to settle them in Białowieża.

On the other hand, were there any better habitats for bison? The Białowieża Forest was their last refuge in this world. Were it not for the war and the postwar chaos, they would have lived unthreatened till now. Were there any better caretakers for bison than the Białowieża game wardens trained in the tsarist hunting farm, who knew best how to breed and protect the 'tsar's cattle'?

It was becoming urgent. The Minister of Agriculture could not wait any longer with the decision where to transport the two female bison kept in the Warsaw zoo: the pure-bred Biskaja and the crossbred

Stolce. This is why the State Forests director sent Władysław Janta-Połczyński and Jan Żabiński to Białowieża in order to 'see the terrain and the conditions in which bison are kept there'. Professor Wróblewski could not miss such an important mission. A bacteriologist and expert on the primeval forest in the period before the war, he studied the life, diseases and other causes of the depletion of this royal game for a few years for the university in St Petersburg. He wrote the scholarly work *The Bison of the Białowieża Forest*.

On an August morning, the commission members in casual clothes departed to unit 420 near the settlement of Zwierzyniec. They were

A pair of bison

greeted at the open stylish gate by the director of State Forests at Białowieża, Stefan Modzelewski, and the gamekeeper Hademna. They examined the localization and condition of the 22-hectare enclosure till midday. Nothing escaped their attention. Neither the two-metre-high, tight fence of three-inch-wide oak posts, topped by rows of barbed wire, nor the plentitude of old trees with deciduous brushwood, nor a spacious clearing covered by lush grass. They examined the large shed with storage room for clover at the attic and a feeding rack under it. They checked if the water was clean in the stream and the pool made for bison. The soil everywhere was dry and no swampy terrain was found.

At noon they ate a simple meal at the forester's lodge, where the game wardens who guarded the game park resided. They were foresters, truly loving the revived bison centre and good friends of the professor. It was absolutely clear that under their twenty-four-hour care the animals were safe. Especially that their health and breeding were supervised by a veterinary surgeon, the manager of the Biological Laboratory at Białowieża.

It was time to do the most important job: to see the animals and check their physical condition and health. The commission tried in vain to spot the four furry dark-brown shapes from a roofed stand. Then they saw a warden crossing the paddock and clattering with buckets full of oats. 'Ho, ho, ho!', he called melodiously, waited and called again. At last Borusse, a two-year bull, a crossbreed with a bison from the Caucasus Mountains born at Count Arnim's breeding farm and imported to Poland by the Hagenbeck company, lazily came out of the woods. He was so quick-tempered that the wardens had to jump up the fence many a time to save their lives. He was followed by Biserta, an equally impolite and easily infuriated cow. She inherited her bad character from her mother, Bilma, born in 1913 in the wild in the tsarist Russian Białowieża Forest. She was caught in 1916 and sold to Sweden, where she lived in the Stockholm zoo. Finally, two other crossbreeds approached the stand – Kobalt, a male from Sweden, and the female Faworyta.

They listened to the stories about the animals' characters and habits: how perfectly they knew and recognized their caretakers and frequent visitors, but still they might suddenly, without any reason attack the warden who was feeding them as usual. It can be extremely dangerous: a bison, although it looks bulky and slow, can be surprisingly agile and fast. In great anger or fear it jumps easily over a 1.5 m fence without taking a run-up. A semi-domesticated mother with a calf would not wait till people approach them; she may attack from a 100-metre distance. For that reason and for fear of bringing some plague, strangers were strictly forbidden to enter the paddocks... The bison got bored with this gossip and walked away slowly, with dignity.

That evening in the side room of the Białowieża mess, the commission sat down to write their judgement.

The history of bison restoration somewhat differs in its details from the propaganda story told by popular books and guides.

'We keep receiving some alarming news about the Białowieża Forest and its animals in particular, which is hard for us to check', wrote the monthly *Łowiectwo Polskie* (Polish Hunting) in spring 1921. 'We enquired about the number of bison at the Białowieża forest management, but no answer has been given so far. According to a reliable source, some bison lairs have been discovered recently, but no bison were found. They are probably wild cows' lairs. There are no bison.'

According to Russian statistics, on 10 January 1914 free-ranging bison amounted to 727 specimens (231 bulls, 347 cows and 149 calves). The German army seized the Forest on 15 August 1915 and they reportedly registered 785 bison. They slaughtered them for several months to supply meat for the army. In 1916 the German forest official Escherich estimated the number of bison at some 200. In March 1917 Professor G. Roesig gave the exact amount: 121 specimens.

In 1921 the Cracow *Czas* (Time) reported: 'After the German withdrawal, the bison were killed off by local peasants, who had no special profit from that. They just took the best pieces of meat for themselves and buried the skin and bones in the ground. The peasants feared responsibility, as under the tsars the killing of a bison was severely punished. It was characteristic that when the Bolsheviks passed, all manor houses were destroyed but the tsar's palace at Białowieża was left intact'. That fact was confirmed by the German army commanders. When they entered the forest, no remains of bison were found at Russian camp sites. No one dared to raise a hand against the tsar's cattle under the last Romanov's rule and even after his abdication.

The witnesses of the events in 1919, after the German authorities and forest administration were gone, said: 'Marauding bands of soldiers together with local peasants equipped with rifles began a regular slaughter of the game. In the second half of February

through March, there was so much savage shooting in the Forest that it was dangerous to walk the forest roads. The royal bison, partly domesticated, were not able to escape far away and save their life. They roamed the backwoods they knew so well till they got killed by bandits.'

The Polish authorities tried to find a remedy. On 10 April 1919 the commissioner general of the eastern borderland issued a decree which imposed a fine of 5,000 marks and five months arrest for the illegal killing of a bison. This was announced on 22 May in a notice in Polish and Russian put up in forest localities.

In the winter of 1919 nine bison were seen. Only one female survived through 1920 and she was killed on 9 February 1921 by Bartłomiej Szpakowicz, a ranger from the village of Stoczek in Białowieża. This is the information given by Konrad Wróblewski in the introduction of his great book *The Bison of the Białowieża Forest*. Despite many other interpretations, I would rather believe him. The fact that in 1921 the Białowieża Forest already belonged to the Republic of Poland and was administered by Poland explains why the other date, namely February 1919, has been officially accepted as the date of the final extinction of the bison: to save national pride.

All reports of encounters with bison after February 1919 were considered as unconfirmed and the Polish scientists on their short trip to the Forest did not notice any of these animals. The reports of the local forest wardens of 1919 and 1920, saying that three or four bison were still wandering about the Hajnowska, Browska and Starzyńska guard areas, and that a bison calf was seen in the Hajnówka area, were regarded as untrue, as was the claim of a former tsarist game warden that about ten bison had survived the war. I consider Professor Szafer's statement in his description of his Białowieża expedition that the last bison was killed in April 1919 as completely wrong. Unfortunately for those patriots who tried to correct history, the preserved report of Herman Knothe

from the Ministry of Public Works and the Management of the Eastern Territories, who was an eye-witness of the poaching of one bison from a herd of four on 12 April 1919, stated clearly: 'After marching for an hour and a half, we reached the path crossed by four bison and two poachers. Half an hour later we arrived at a spot where the last shot was probably fired to the severely wounded animal. A few dozen steps from there we saw the remains of a skinned carcass. The poachers must have already taken some of the quarry home. But its cut-off horns were lying on the snow next to the still large amount of less valuable meat.'

After he left Białowieża, Knothe ordered a small bison figure to be cast in bronze at the Łubieński Brothers workshop and he placed it between the horns he found. His trophy was later referred to as a 'precious relic of the last royal animal inhabiting our forest'.

At the Chief Conservationist's office in Warsaw, some important documents concerning an investigation and a statement by a poacher have been found. Namely, Grzegorz Sawicki, a bison warden, testified that he perpetrated the crime on 19 February 1919. The document relates neither to Knothe's description nor to the ranger Szpakowicz's poaching at Stoczek. Both dates and names, as well as other data disagree. This document was simply fabricated in order to save the honour of the Polish administration.

Professor Wróblewski was pressed to 'correct his mistake' and he did that in his publication of 1932, admitting the shooting by Szpakowicz he had mentioned before occurred in 1919 not in 1921. But he argued it was not necessarily the last bison to be killed.

In May 1922 the Polish Hunters' Union in Poznań undertook efforts to set up a hunting company in the Białowieża Forest, with a view to restoring the bison species. Their appeal, published in *Łowiectwo Polskie*, was answered by several dozen 'lovers of hunting', who declared to pay some 300 million marks altogether for the purpose. They started to look for possibilities of buying bison.

But the Poznań initiative was firmly rejected by the state authorities, who planned to turn the Białowieża Forest into the hunting grounds of the President of the Republic.

In 1923 the Commission for Nature Protection was set up. The hunting circles of Poznań led by Władysław Janta-Połczyński at their first meeting on 29–30 June declared their wish to participate in the campaign to save the bison. But the Commission ignored the hunters' kind proposal.

Professor E. Niezabitowski in his lecture 'Animals – monuments of nature in Poland' informed on the Commission's endeavours to learn how many bison were still living in the world (although the hunters already had such information) and he declared their intention, should appropriate state funds be accumulated, to reintroduce the bison into the Białowieża Forest. It all ended in declarations.

We should not feel indignant with the Germans, who hung an unfriendly tablet at the bison run in the Berlin zoo. The inscrip-

A herd of bison at liberty

tion placed under the two-headed tsarist eagle read: 'The bison, which the Poles wanted to exterminate'. The insult was effective. In 1923 Sylwester Urbański, a former bank director, hunter and reformer of the Poznań zoo saw the tablet and refuted it through his actions: in 1924 he bought a bull named Hagen and a cow named Gatczyna from the German breeding farm of H. von Beyme in Mecklenburg for 12,500 złotys. Imported to Poznań, they were the first bison reintroduced to Poland, apart from three individuals in the private breeding farm of the von Pless dukes at Pszczyna.

On the initiative of three French scientific societies, the International Congress for Nature Protection was held in Paris from 31 May till 3 June 1923. It was presided by Professor L. Mangin, director of the National Museum of Natural History. The discussions of one of its five sections were devoted to fauna. Poland was represented by delegates of the State Commission for Nature Protection: Jerzy Smoleński, professor of the Jagiellonian University and member of the Academy of Arts and Sciences, and Jan Sztolcman, deputy director of the State Museum of Natural Science in Warsaw, a traveller, naturalist and hunter, the founder and first editor of *Łowiec Polski* (Polish Hunter). Sztolcman in his speech came forward with a proposal to 'found a bison protection league modelled on the American one'. The proposal was unanimously accepted.

An identical project was already launched in Germany by the director of the Frankfurt zoo, Kurt Priemel. On 25–26 August 1923 the first congress of the Internationale Gesellshaft zur Erhaltung des Wisents (International Society for the Preservation of Bison) was held in Berlin. The inaugural meeting was attended by 40 nature lovers, including zoo and museum directors, artists and writers from Germany, Austria, Sweden and Holland. F.E. Blaauw of Holland became its honorary president and the zoo director from Stockholm, Alarik Behm, its president. The USA, Czechoslovakia, Italy, Denmark, Latvia, Switzerland and

Rumania had their representatives in permanent commissions. Sixteen countries joined the League. But Poland was missing.

The historic event was reported to the readers of the biweekly *Przegląd Myśliwski i Łowiectwo Polskie* (Hunters' Review and Polish Hunting) in September 1923, while a detailed report was published in the November 1924 issue. It is unbelievable, but in 1926 Jan Sztolcman in his publication *The Bison, Its History, Habits and Future* informed that the first (!) congress of the Bison Protection League took place in Berlin on 27–28 September 1925. The author did not even mention that it was attended by W. Janta-Połczyński, the editor of *Łowiec Polski* in Poznań, who discussed the bison monograph by Konrad Wróblewski and read his own paper 'The Behaviour of Bison'. All those inaccuracies show that Poland's participation in the international effort to save the bison was simply overlooked.

In his monograph *The Bison of the Białowieża Forest* of 1926 K. Wróblewski wrote with bitterness: 'It is sad that in Poland I have hardly observed a sufficient interest in the future of the bison, which this lost species, the pride and wealth of our country, deserves. No one made any effort to protect the remaining few individuals that survived until Poland's revival. We eagerly started to exploit the Forest and let the last bison specimens be killed off, though we could and should have prevented that. When the problem was generally acknowledged, an international association for bison protection was set up in Germany, with all civilized nations as its members. Only Poland was not represented there for a long time'.

In 1923 only 54 pure-bred bison lived in the world. 39 of them descended directly from the Białowieża Forest. Others were hybrids of American and Caucasian bison and even of Ukrainian steppe cattle from the Askania Nowa reserve. European bison pedigree books were launched and very exact records were kept.

In Poland, the task of bison restoration was undertaken and fulfilled by the State Forests Management. It was done with the

hands of its foresters and hunters. This is the truth proved by documents and it must be pointed out and remembered.

The idea of creating a forest reserve in the Białowieża Forest in order to regenerate the species was canvassed by a group of hunters. It created a stir in the contemporary press. 'I dare say it would be extremely reckless to contribute any counselling or labour to implement this project,' one of its opponents wrote. 'In the present circumstances there is no way bison could be brought to the Forest'. The obstacle was poaching, which spread dramatically. 'It is much more common than anywhere else. The Germans upon their retreat left some 250 bison and that amount was killed in one season of 1918–1919. Elks are long extinct and deer, fallow deer and roe deer have been decimated.'

The Białowieża Forest was chosen in spite of all arguments against it. The breeding was commissioned to the State Forest Inspectorate at Białowieża. The State Forest Management bought seven bison from the Hagenbeck company out of their own funds. It turned out, however, that only three of them were pure-bred. The first two bulls were let into the Białowieża paddock on 19 September 1929 in the presence of W. Stankiewicz, the Chief of the Forestry Department of the Ministry of Agriculture, A. Sym, director of State Forests at Białowieża, and J. Zawadzki, its deputy director, as well as a number of State Forests Management officials, including inspectors, forest inspectors, and the whole staff of the Hajnówka Forest Inspectorate office and many local people. Two crossbred female bison were soon brought. More animals were waiting in the Warsaw zoo, including a female bison with a purely Białowieża pedigree. That was how it started.

The professors from the State Council for Nature Protection, who at the time were fighting with foresters for the legal protection of the Białowieża Forest reserve, voiced their objection – as we know today, quite unnecessarily. They asked why it should be Białowieża and not some other place. They pointed out that bison were a matter of interest of scientists all over the world and

therefore a special commission should take care of the bison in Poland, with the participation of the Ministries of Education and Foreign Affairs as well as the State Council for Nature Protection. Strangely enough, for the lack of initiative of those bodies, bison were still considered as hunting game in Poland.

Amid all that clamour of criticism, sending experts, demanding special conferences to be convened and alarming the press, the director of State Forests sent a team of experts to Białowieża. Their opinion forwarded to the Minister of Agriculture read: 'The Białowieża reserve, after the specified alterations (the supervision of K. Wróblewski over individual food rations for the animals and the cutting off of the forest stream flow to the paddocks) provides a promising site for the reproduction of bison'. At the same time W. Janta-Połczyński wrote in *Łowiec Polski*: 'I would like to note that it is strange and hardly comprehensible that a proposal to choose a commission for bison protection in Poland should completely disregard the Polish Branch of the International Society for Bison Protection, so far the only body showing any interest in the matter. Even if such a prominent commission will be able to do anything at all, it will certainly not do it as quickly and efficiently as the one appointed by the Ministry of Agriculture'.

Ten days later, on 29 August 1930, more female bison were transported to Białowieża.

In the spring of 1935, at the cost of the State Forests administration and the Society for Bison Protection, two pure-bred Białowieża bison arrived from Sweden aboard the *Marienholm*. They were: 22-year-old Bilma, mother of Biskaja and Biserta, and 5-year-old Bjoerson. The latter was horned to death a year later by the aggressive Borusse and is now the main exhibit in the park museum. Since the breeding farm at Pszczyna boasted its Białowieża roots, a bull named Plisch was bought there in 1936. Hundreds of his descendants now roam the backwoods of the Białowieża Forest. All the animals of mixed or uncertain pedigree were moved to the new centre at Smardzewice near Spała.

It was not until 12 October 1938 that the decree of the Minister of Religions and Public Enlightenment declared the European bison (*Bison bonasus L.*) a protected species on the territory of the whole country.

Déjà vu

On 17 February 1937 at 6.45 a.m. hunters' trumpets started to play simultaneously in three places: in front of the tsar's palace on Białowieża hill, by the hunting lodge and at the railway station, where a locomotive pulling the state carriage of the president of the Republic of Poland Ignacy Mościcki was just rolling in, puffing clouds of steam.

At 7.30 a.m. breakfast was served in the palace dining hall. On the president's right sat the most distinguished guest, Grand Master of the German Hunt and Prime Minister of Prussia Hermann Goering; on his left – the ambassador Count von Moltke. Further seats were taken by Polish and German ministers, military men and diplomats: Körner, M. Mościcki, Łepkowski, Sosnkowski, Schally, Fabrycy, Romer, Knothe, Czerwiński, Tukanowicz and the president's aides-de-camp, Captains Kryński and Hartman. Only one of the invited guests did not turn up: Karol Nejman, director of State Forests at Białowieża. Because of 'indisposition' he renounced the honour of hunting in the company of *Herr* Goering.

In a loose, friendly atmosphere, amid the noise of excitement at the news that in the western part of the forest four wolves and four lynxes were waiting in two flagged hunting sites, stands were distributed by lot. St Hubert saw to it that the best stand was reserved for Goering. At 7.55 trumpets gave a signal to depart. A line of limousines soon left the tsarist courtyard, heading for the meeting point at the Hajnówka forest division, where sleighs marked with numbers were already waiting...

A lynx family – a mother and three quite big young – hung around a dead doe lying in the Myśliszcza range. Because of the thaw the meat

was not completely frozen, so the big cats did not try to look for another prey. In between meals they slept in the thick wood. But that evening something worried the mother. She heard a distant murmur of human steps on all sides and could feel the faint smell of man. It soon became silent again and the bad stink was gone. They must have gone away. But the experienced female was not misled by the quiet of a winter night. She had dealt with man more than once. She left her refuge carefully, walking soundlessly like a ghost. The young followed her. At some distance from the doe carcass she smelled man again, so she stopped to watch for possible danger. Their escape route was cut off by a rope with long strips of fabric hung on it densely. The lynx mother changed the direction of their march, but all forest passages were cordoned off. Nevertheless, the spirit of the forest guarded them that night. It was pitch dark and windless and the hanging flags did not scare the lynx family so much as they increased the animals' will to escape the trap. They walked round and round until the mother found a way of escape: one of the strips caught on a spruce branch, opening a gap in the cloth screen. Outside was freedom. Clinging to the tree trunk, the female crawled through the flag line. She miaowed with encouragement and the young did not hesitate to follow her. One of the cats was in such a hurry that he diverged a bit from the path shown by his mother and his head got entangled in a loop of the fabric. Instead of stepping back and running as instinct should have told him, the terrified animal leaped forward impetuously and tore off the thin material. That saved him. He ran after his mother. Before daylight, she led her children to their father's hunting range.

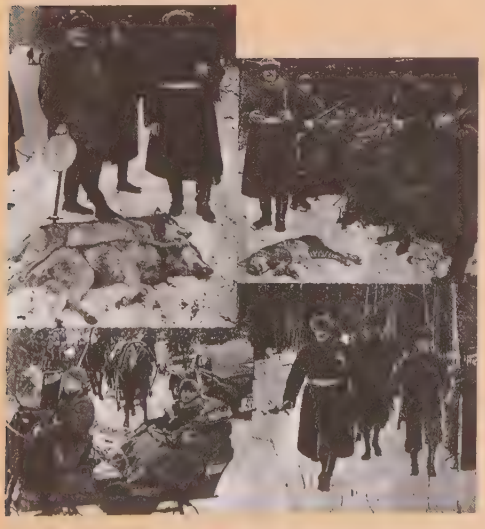
Once more, like in the time of Nicholas II, the backwoods of Białowieża became the setting for a great show: a long line of sleighs padded with leather set out towards the flagged site surrounding the wolves. They were led by the huntsman Doubrawski with his assistant. The second sleigh was occupied by Mr Knothe, who was playing host to the hunt. The next, most sumptuous sleigh carried the president of Poland and Hermann Goering. Other guests and their retinue filled the remaining thirty-plus sleighs.

At 9 o'clock the hunters stood at their positions and the trumpet gave the signal to go. The Grand Master of the German Hunt was never out of luck. Though standing next to excellent shooters, it was he who killed three wolves and two big wild boars. The fourth wolf unfortunately ran away. The sleighs were ready to take the party to the site with the lynxes, the killing of which was a long-time unfulfilled desire of the German guest, when it was suddenly reported that the cats had escaped at night.

'Well, this failure lets me appreciate the hardships of hunting in the wild Polish primeval forest,' said Goering, a polite smile on his chubby face contradicting the look of contempt in his cold, pale eyes.

They hunted in three other sites before they received a good message from the Gródek forest district: five lynxes were tracked and fenced off there in the morning. They were sure not to escape during the day. The chubby face of the German guest brightened up, showing his friendliness to the Poles. They had a quick meal in a forest pavilion and they went by cars to the new site to hunt the lynxes.

The experience of the old female cat was no help. When the chase started, all five frightened lynxes ran directly towards the shooting line, but unfortunately – far from Goering's stand. *Jagermeister* Sherping killed one of the young and the other animals dispersed. Two more shots were accurate. The old male and female with one young forced their way through the chase line and ran away to the thickest forests.



President Ignacy Mościcki at Białowieża

Two days later, when the prime minister of Prussia had already left to look for his dream quarry in the forests of Polesia, the president of the Polish Republic killed the most beautiful lynx that winter: a big

female weighing 24 kg. Her tawny fur was mottled with dark patches and her bushy ruff on the neck made her look like a tiger.

The magic of moonless forest nights can bring back some long forgotten events, which get entwined with the present...

The bloody light of torches hung overhead in containers in front of the tsar's palace distinguished its facade out of darkness and lit the courtyard, with its proud display of hunting trophies. In order to emphasize the size of hunted animals, the carcasses were hung on a long scaffolding of unbarked logs. The palace door opened and the Distinguished Host appeared. A fanfare sounded as he was slowly descending the wide stairs to have a close look at the harvest of eight days of hunting in the Białowieża Forest: 86 wild boars, 9 lynxes, 4 wolves and 4 foxes. The sharp blade of the knife with which the huntsman pointed at the most beautiful trophies produced ghastly flashes.

Like thirty years earlier, when Grand Duke Mikhail Aleksandrovich Romanov slept in a palace bedroom on a September night, a tawny owl sat on the roof gallery on its way back from hunting. But its ominous cry which ended in devilish laughter could not penetrate through the tightly shut windows. In February 1937 nobody foresaw the coming nightmare even in their dreams.

The lynx, the second biggest predator living in the Białowieża Forest next to the wolf, is an imposing, exceedingly beautiful animal. This long-legged and big-pawed cat is a good jumper and resilient walker, very agile and well adapted to squeezing through the thickest forests. It can run along fallen trunks and climb trees. Its round, rather small head is set on a strong neck with bushy ruffs and its ear tufts are black. Its slim body, covered with soft, reddish-grey fur, barely marked with light-brown spots, ends with a short tail. The belly, the inside of the legs and the chest are white and so are the rings around its big and shiny, intelligent eyes. Adult males can be up to 75 cm high and 1.25 m long and they weigh about 30 kg. Females are a bit smaller.

Two species of these big cats were distinguished in Europe in the past centuries, although Linnaeus did not make such a distinction. In his work published by the Swedish Academy in 1815 the Swedish naturalist Thunberg mentioned two animals: *Vorg-lo*, the present *Lynx lynx*, and *Katt-lo*, or *Felis borealis*, which he described on the basis of hunters' reports.

In early-19th-century Poland some experts also distinguished two subspecies of lynx. In 1827 Sylwan published an appeal to the 'fans of hunting' asking them, 'if they were so lucky as to shoot a smaller specimen, or the cat-lynx, to wrap it in linen, soak it in aquavit and immediately send it kindly to the Forest School Museum or the Zoological Laboratory of the Royal University in Warsaw. The packing and postage costs would be returned with thanks'. It seems, however, that the appeal was never answered and we were not supposed to know whether two varieties of lynx lived in Poland or young individuals were mistaken for a different species.

Lynxes which have survived in the old forests of northeastern Poland and in the mountains are unusually alert, sharp-eyed and with a keen sense of hearing. They are regarded as mysterious animals, leading a secret life. This is only partly true.

Ordinary visitors to the forest behave like bulls in a china shop. They are careless and move too fast, making a lot of noise. They

wear bright-coloured, often rustling clothes and give off a strong scent of human sweat and perfume. Not only the lynx, but all creatures living in the forest, the noisy jay above all, know that their enemy is coming. They do not necessarily run away in panic. Deer, roe deer, elk or wild boar often remain stock-still in the bushes, tensely watching intruders till they are gone. Animals behave like this mostly in national parks, where they do not expect a group of people to do them any harm. Mammals protected for quite a long time, such as bison, behave in a similar way. Wandering in forest backwoods we would be surprised to learn how closely to us a big tawny cat sat still on a fallen tree. In the past, when there were still many lynxes in the forest, I often found tracks of their big round paws on my own footprints when I was coming back from a winter forest walk. Some curious lynx had been following my steps for a few hundred metres. Solitary hunters also tell such stories. Feeling safe in the dark of the night,

A lynx waiting for prey

lynxes can approach settlements in the forest and spy on people. They may even catch a stray dog. Themselves showing naive curiosity, which often leads them into a trap, lynxes do not tolerate humans meddling in their affairs. Therefore, the species has survived only in the thickest forests and wilderness, national parks and inaccessible mountain forests.

Lynxes see very well at night and this is when they prefer to hunt. They know all forest passes and the paths of big herbivores. They hide behind a fallen trunk, a pile of branches or in a hollow in the ground and wait patiently for their prey to come. Then one strong jump, a blow of their strong paw with claws and a bite on the neck are enough for a lynx to strike down a young deer or a roe deer. This is their food supply for several days. Lynxes have the courage to come back to their prey until they eat all that can be eaten. They store what is left: the remains of small animals are hidden in low tree branches and those of big prey are covered with grass and leaves. It happens though that they miss or the game chooses another path. Then they have to walk for miles and hunt again and again. An unlucky lynx may for many days make do with a few mice and frogs or carrion in winter.

The lynx is a lone predator hunting in its own range, which does not mean it is hostile to its own species. In such extremely small populations as the present one in the Białowieża Forest animals either are related to each other or were already mating with each other. Thus lynxes, though not very sociable, are in fact one family. It happens that two or three lynxes feed on one prey and they are not necessarily a mother and her young.

The mating season, like in all cats, is in February and March. But the luring night-time sounds of lynxes are much more refined than those of domestic cats crying in the yard. Their short, deep 'wows' perfectly harmonize with the night mood in the forest and the sound of owls hooting.

In April or May a litter of two or three young is born in a well-hidden nest. Unusually small, they weigh about 0.7 kg and are

quite helpless, deaf and blind. They are not fed any meat until the second month of their life and they are suckled for another month. The family stays together till the next spring. When the mother feeds her next litter, the bigger cats start their independent life. At first they keep close to one another and when they mature for reproduction each lynx takes hold of its own hunting range.

Déjà vu is a mysterious psychological phenomenon when suddenly we have a curious feeling that an event or scene had already happened before. In extreme cases we may know what is going to happen next.

After Poland had regained independence, in May 1922 the hunters from the Polish Hunters' Union in Poznań put forward a proposal to form the Białowieża Forest Hunters Company. The proposal was turned down, for in 1923 the Forest was pronounced to belong to the president of Poland and its management was entrusted to Count Maurycy Potocki.

The state of forest fauna after the war devastation was far from imposing. The German occupational administration supervised by E. Bark, the nominal forest inspector of the Białowieża Forest, and G. Escherich, the manager of the forest office at Białowieża, was very poor. The marching hordes of armed German and Russian soldiers, the starving local population and the sudden stop to animal feeding brought their effects. In 1924, under the presidency of Stanisław Wojciechowski, the forest was inhabited by some 120 deer with poor antlers, 2,000 roe deer (the ratio of males to females was 6 to 1), 450 mostly big wild boars, 10 wolves, 100 cocks of the capercaillie (hens were not counted), the last remnants of fallow deer (10 or 15) and one lynx in transit, which went somewhere else, probably to the Pińsk region. The forest was managed by forest inspectorates, each in its own way. In the same year the Ministry of Agriculture reorganized the system of game management.

Only two major hunting posts were left: a huntsman and a shooter, along with two auxiliary ones: a wagoner and a guardian. The duties of a huntsman included the maintenance of the former tsarist palace complex, called the hunting palace, and he was responsible for six horses and their keeper. The annual budget of 14,034 złotys was a small proportion of the profits derived from timber exploitation. It had to cover the expenses of 'installations, maintenance, salaries, keeping state horses, game protection, chases, nets, lines, feeding, fuel due to administration buildings and officials'.

Because the forest management was so sparsely financed, the administration and forest service had to be burdened with some duties connected with game protection to help the huntsman. It was widely criticized by those who knew the reality in the Białowieża Forest. 'Who would deny that gamekeepers are born poachers,' pointed out J. Dylewski soberly. 'What if all their shots over an area of 130,000 ha were controlled; who would then still claim forest officials don't poach.'

In the course of years the situation of fauna improved, especially when Ignacy Mościcki became president. He was known as a passionate hunter and organizer of state hunts at Spała and in the Białowieża Forest.

In 1928 the huntsman was assigned eight game wardens as his assistants. To make the situation more 'normal', two categories of forest were distinguished: almost 70% (87,788 ha) of the area was reserved for state hunts, while the remaining 30% (39,925 ha) for the forest administration hunts, totally excluding other hunters, the common citizens of the Republic of Poland. Poachers did not mind in whose forest they stole, although they had

President Mościcki at Białowieża

to limit their activity when the legal and social order was restored.

On 1 October 1928 the fauna consisted of about 210 deer, 250 wild boars, 2,000 roe deer, 1,400 hares, 360 capercaillies, 300 black grouse, as much as 30 lynxes and 90 wolves, 230 foxes and 50 badgers. Elks, bison and fallow deer were killed off completely.

From 1930 state presidential hunts with the participation of international political and social elite were held regularly. As before, the passion of the wealthy for killing animals in the Białowieża backwoods turned to be beneficial for the game. Poaching was curbed, animals were fed in winter and wolves were killed. It soon brought results: 687 deer, 2,400 roe deer, 1,240 wild boars, 2,000 hares, 1,300 capercaillies, 700 black grouse, 95 lynxes (a gross overstatement), 40 wolves, 650 foxes and 280 badgers were registered in 1935.

'A Hunt' by J. Fałat

One of the state hunts took place in February 1936. The biggest quarry belonged to the President (8 wild boars and 1 lynx), Prime Minister Kościałkowski (8 wild boars), former prime minister Jędrzejewicz (5 wild boars), the president of the Gdańsk Senate, Mr Greiser (5 wild boars and 1 fox), General Fabrycy (6 wild boars), Goering's aide-de-camp Captain Menthe (5 wild boars and 1 fox), the prime minister of Prussia Goering (a fine male wild boar), minister Visojanu (a wild boar and a lynx), General Sosnkowski (3 wild boars), General Schally (a wild boar, a lynx and a fox), and minister Körner (3 wild boars and 1 wolf). All other hunters killed boars.

It was the hunters' wish to give the whole quarry, i.e. two tons of game meat, to the unemployed at Hajnówka and Białowieża and the kitchens run by social welfare organizations of the region.

On 3 April 1937 Goering attended the ceremony of the opening of the Berlin International Hunting Exhibition. The Polish pavilion made it really big. Decorated with portraits of President Mościcki and Marshal Rydz-Śmigły, it displayed a large relief model of the Białowieża Forest with wooden figures of bison, wolves, deer, lynxes and other game on it. Trophies of all possible animals decorating the walls, floor and plinths included 10 gold and 10 silver-medal wolves' heads as well as 11 gold and 11 silver-medal lynx pelts. The pelt of a big female in the centre was the trophy of President Mościcki from the February hunting at the Białowieża Forest.

On 4 November 1937 at the Polish Embassy in Berlin, in the presence of the political and social elite of Europe, General Hermann Goering was awarded the highest decoration of the Polish Hunting Union.

'The tradition of royal hunting was revived in the new Republic. Its Highest Authority, Mr President enjoys the special privilege of organizing great hunts in the Forest, to which he invites mostly prominent people from the country, from the diplomatic corps and from abroad. The prime minister of Prussia

and Grand Master of the German Hunt Hermann Goering, a passionate hunter, has been a regular guest of winter hunting for three years now,' wrote the papers in the late 1930s. Right next to such articles were reports of repeated anti-Polish provocations and of Hitler shouting at the Reichstag. It was like dancing on a volcano...

The day was approaching fast when the main architect of the Gestapo and concentration camps, the war criminal, Marshal of the German Reich Hermann Goering, would stop feeling a guest in the Białowieża Forest. In June 1941 he had it at his disposal as the *Reichsjagdgebiet*.

The Reichsjagdgebiet

The Zimerman woman must have been crazy to quarrel with Klaman's mistress. But on the other hand, no wonder the two women felt uncomfortable under the same roof. Mrs Zimerman was a thirty-something, nice brunette with mischievous dimples on her ruddy cheeks and a flash of laughter in her dark eyes. She was very hot-tempered and as quick to laugh as to make a row. The opposite of her, the 'lady of Topiło', who demanded to be addressed *Frau*, was a self-controlled blonde with German features, who kept a firm grip on the post despite her young age. When the commanding officer was in, she was all flattery and quietness, but when he was out, she turned into a despot. Everyone knew that a single word of complaint from her painted lips was enough to be sent to the Eastern Front. As nobody would fancy that, they humbly swallowed her insults.

Mrs Zimerman came from Hajnówka. Her husband, a Mazurian sawmill clerk, was taken together with others by the Russians to an unknown destination in 1940. She was saved, for as soon as the first bombs were dropped in September 1939, she ran away with the children to her sister in a village. She returned to Hajnówka in search of a job when the Germans seized the town. She didn't want her kids to sponge on their aunt forever. She was employed at the kitchen of a local mess, where she was quite safe, as the Germans were said not to harass the families of those deported to Siberia. One Kuschmitz, a forest warden, often came to the mess to sit alone in a corner over a pint of beer and knuckle of pork. A quiet man over forty, he worked in Prussian forests before the war, so he was assigned to the service in the Białowieża Forest. It was hard for a lonely man in a foreign country, so

one or two times he started talking in broken Polish to the merry cook. He asked her address, then he brought her a small *Geschenk*, and then it went smooth. Their close relationship was not very conspicuous and it upset no one. The name Zimerman sounded German, so everything was all right. At least for a time.

At the meeting of the Białowieża *Amtskommisar*, Albert Schartnorez, with the head of the forest administration, Wagner, and the chief huntsman, Ulrich Scherping, it was resolved to increase the number of wardens in forest posts. Despite the methodical reign of terror, poaching was still a problem and partisans would raid the Forest. Kuschmitz had bad luck: he was moved to the *forstschutz* of Georg Klaman, the commandant of Topiło. An active member of the Nazi Party, he was known for his cruelty. His subordinates, especially wardens Wolke, Rhode and Schmidt, as well as the Wehrmacht platoon he had at his disposal matched their boss. Murders and executions were the order of the day. The story of Estera's drowning was told for entertainment:

In July 1942 Klaman and his wardens were riding on a wagon through the village of Plesiszcze. A few days earlier they had caught a Gypsy boy near that village. The local people saw him get on the wagon, but they didn't know that he was shot dead several hours later together with three other men.

The Germans were about to leave the village when a Gypsy woman named Estera ran out of her cottage onto the road. She asked the commandant of the Forest Service very politely where he had taken her little son. He told her to get on the wagon: 'Come on, woman. We are going to the place where your son is kept'. They drove into the forest and the horse hooves clattered on the bridge over the Biała River. 'Halt!' shouted the commandant all of a sudden, 'Into the water with the dirty Gypsy pig!' They watched amused as the woman, who could not swim, struggled for her life. She seemed to be drowning but the current threw her onto a bridge pile and she clung to it with despair, gasping for air. It was only too easy to bend over the balustrade and shoot her like a duck...

This was the commandant that the warden Kuschmitz was appointed to serve. At the beginning it wasn't so bad. The increased number

of *Forstschutz* wardens needed more domestic personnel and Klaman readily agreed to employ Mrs Zimerman from Hajnówka as a housekeeper. Himself an amorous man, he turned a blind eye to his subordinate's affair. The woman arrived with very little luggage. She was given a small room in the attic of the forest inspectorate building and she energetically started to cook and clean.

Nobody could say what the women quarrelled about. Was it a struggle for dominance over the post, or envy of the greedy looks of the Germans at the handsome housekeeper, or maybe, as some people said, they knew each other from the times before the war. It was rumoured that the *Frau* came from Bielsk Podlaski. When the Nazi army entered, she renounced her family, bleached her hair and from then on she was only seen in the company of German officers. Whatever the truth, the atmosphere at the post was becoming tense.

The eruption took place in winter, in the absence of the commandant and the wardens. The forestry headquarters resounded with shrills and cries; epithets were hurled: 'German trollop, Nazi bitch, damn you!' Then the door was slammed and the housekeeper wrapped in a scarf ran along the forest path to Hajnówka.

When Klaman came back home for dinner, he saw his mistress in tears. She kept snivelling and begging him to punish the arrogant trickster, who had insulted her, her protector and the Führer. The commandant put on his coat again, fastened his holster with a pistol and ordered to harness a horse to the wagonette. He cracked his whip and the horse trotted forward after the runaway. Klaman came back very soon, driving the perpetrator of all the crimes in front of the horse. She kept falling to the ground.

The Topiło platoon soldiers were waiting next to the forest inspector's house. Wardens were called to come and Kuschmitz was positioned so that he could see the execution in detail. The woman was dragged. She begged for mercy.

The bang of the volley shook the window panes. In the house, a woman's hand, which was just raising a powder puff to the face, trembled quite involuntarily.

ROZKAZ

1. Ta wieś będzie dzisiaj wysiedlona.
2. Każdy mieszkaniec może zabrać na przygotowanych wozach swój ruchomy majątek.
3. Dla załadowania zabieranych z sobą rzeczy wyznacza się 2 godziny czasu. Urzędnicy policyjni wyznaczają czas odjazdu. Ich rozporządzeniom należy podporządkować się.
4. ZABRANIA SIĘ brać ze sobą: konie, uprząż, wozy, kosy, widły, motyki, worki i kosze.
5. SKONFISKOWANE bydło, owce, i świnie pozostają we wsi.
6. Nawiedzanie wysiedlonych wsi, pól i łąk, jak również całej Puszczy Białowieskiej jest wzbronione pod karą śmierci.

DOWÓDCA SS I NACZELNIK POLICJI
SS DOWÓDCA GRUPY
fon dem BACH

In 1939 everybody was aware that war was inevitable. Some foresters were conscripted into the army in March. Others went through intensive drill on the spot within the so-called Foresters Military Training. In July the State Forests Management excluded all its staff from being called up. They were to provide backup for the partisans should the enemy troops break in from East Prussia. At the end of August, however, they were ordered to report armed at the Kosów Poleski mobilization site. The forest service were followed by civilian volunteers and police forces. The Białowieża Forest was left defenceless.

On 1 September Luftwaffe planes flew over Białowieża at 5 a.m. The first bombs were dropped on the military hospital No. 502, marked with a big red cross, and the historic Orthodox church. Soon after, the units of the 3rd Armoured Division of General Geyer von Schweppenburg marched into Białowieża. They stayed for a few days only. In accordance with the Molotov-Ribbentrop Pact, the Nazis withdrew across the Bug River. On 17 September Poland was invaded by the Red Army.

They brought chaos and lawlessness. Armed gangs of robbers and poachers ravaged the area in daylight. Trees were felled in the historic tsarist palace park and in the nature reserve. People were murdered. Communist campaigners, both local and those sent from Moscow, started their hectic activity in the villages and towns of the region. The population was being prepared to accept the Soviet rule. The militia formed out of peasants and workers arbitrarily searched manors and robbed their wealthy owners. People took all their belongings and fled into the Forest, which increased the chaos even more.

On 21 September the Russians seized Hajnówka and Białowieża. Under the rule of the Belorussian Socialist Soviet Republic the chaos prevailed greater than ever. Class struggle and dictatorship of the proletariat were the slogans of the day. Denunciations, arrests and interrogations by the NKVD secret police, searching and confiscation were the order of the day.

The new authorities found well-prepared ground. As early as 1937 the Polish government warned foresters in the east of the country to beware of the communist propaganda infiltrating through the eastern border from the Comintern headquarters at Minsk. Trained agents were smuggled into Poland to penetrate the poorest worker communities. They recruited and paid new followers, formed party cells and sparked off strikes.

Late in November foresters returned from Kosów Poleski – to their undoing. As soon as February 1940 they were deported to Siberia together with their families. Several thousand inhabitants of the Białowieża Forest and its surroundings suffered a similar fate. They included military and civilian settlers who took part in the Polish-Russian war in 1920, state forest employees, intelligentsia, traders and other persons pointed out by denunciators. Most of the deported have never come back.

In the late 1990s Eugeniusz Skrobocki, editor-in-chief of the monthly *Magazyn Polski* published by the Union of Poles in Belarus gained access to some secret documents of the NKVD kept in the State Archive of Social Organizations at Grodno. It used to be a regional archive of the Communist Party of Belarus. The details of the carefully planned and implemented campaign of terror were revealed.

The decision to deport mainly settlers and foresters was made by Stalin on 19 December 1939. On 25 December the people's commissar for internal affairs of Belarus Lavrenty Canava sent out secret instructions to regional heads of the NKVD, ordering them to make lists of all families qualifying for deportation by 5 January 1940. The operation was carried out under the pretext of making a census of property, livestock and farm buildings in each farm in the whole area occupied by the Soviets. The head of the NKVD for the Białystok region, captain of state security S. Gladkov was responsible for the campaign.

In the Bielsk district, to which the Białowieża Forest belonged, the deportation list made by the Bielsk head of the NKVD,

Lieutenant Manuylov, contained 1,463 names of inhabitants of 447 foresters' farms. The families from outside the state forest administration but in the opinion of the NKVD fully deserving a trip to Siberia, were listed separately. They included Białowieża National Park staff: 92 families of office clerks and 46 families of the palace, museum and game park personnel.

Taking into account the great number of foresters in the Białowieża Forest, it constituted a separate operational section, where 113 teams of three men were assigned to carry out the operation efficiently in one day, simultaneously in many places. The teams consisted of the district NKVD office employees, militiamen, members of the workers' militia and local communists. All their names are in the archives.

Railway stations were selected from which trains to Siberia were to depart. At Białowieża station, a troop train of 23 wagons was waiting. 5 wagons were prepared at the Narewka station, 11 at Bielsk Podlaski, 2 at Czeremcha, 7 at Nurzec and 2 at Zaręba. Railwaymen and guards were sent in. The ordeal of thousands of innocent people began in the middle of a winter's night. One of the victims, Anna Mironowicz, wife of a Białowieża forester, recalled:

'I was awakened by the dogs barking wildly in the forester's lodge yard. With trembling hands I lit the paraffin lamp. It was three a.m., the tenth of February 1940. I dressed hurriedly and woke my husband, pulling his hand and calling: "Get up! Quick! It's the NKVD!" They were banging on the door. I opened it. A wave of frosty air broke into the house. Two Red Army soldiers with guns ready for firing burst in, pushing me brutally away. They were followed by two militiamen wearing red armbands and a soldier with a revolver in his hand – surely an officer.

He sat at the table and told us we had two hours to pack our things, for we were going to be deported. (...)

I tried to explain to the officer. I asked and begged: "How's that so? At night? In this frost? With small children? Please have mercy..."

All in vain. (...)

Holding the baby in my arms, I bustled about in the house. One of the militiamen, who was ordered to watch me, turned out to be a forest worker from the neighbourhood I used to know. (...)

Then they told us to take our suitcases and bundles out. A small peasant sleigh pulled by one sickly-looking nag was waiting in front of the house. Its driver, muffled up in a sheepskin coat, stood by the horse, beating his arms for warmth. (...)

The station at Hajnówka was empty. There were only some railwaymen there. A long goods train without a locomotive stood far behind the station building. Into the dark of its open doors people were literally loaded: children first, then luggage. The sleighs were gone right away to bring the next load of people, while other sleighs were unloading to the next wagons. It lasted the whole night. No end to it...'

On 22 June 1941 Hitler attacked his Russian ally. Five days later his army entered Białowieża. Pilots, SS men, police, gendarmes and German forest and game guards peopled the area.

The occupation of the Białowieża Forest was a series of abominable crimes. The never-ceasing planned terror and manhunt lasted till the very end of the war. The Nazis sent to Białowieża had a liking for tortures, beating and setting dogs on people. They built scaffolds and fixed special execution sites for shooting people in the forest.

About a thousand people were murdered or shot in mass executions. First of all the Germans dealt with those who had so far oppressed the local population. As the historians put it briefly, on 1 July 1941 Goering's proxy, chief huntsman Scherping, 'found himself in possession of a list of names of political and social leaders in the period of the Soviet rule'. He immediately passed those materials to the SS and executions were started the next day. On 9 August they began to kill Jewish families. Of 550 peaceful people, mostly living off trade and crafts, some were shot dead in the nearby gravel pit and the rest died at Treblinka camp. No trace was

left of them. Nobody now remembers at Białowieża what their names were and what happened with their property.

The Nazis were paranoically afraid of partisans, therefore many people lost their life for actual or alleged help to 'forest people'. A slight suspicion was enough to be killed.

No one will ever learn exactly when the idea of cleansing the Białowieża Forest of the Slavic element crystallized in Goering's sinister mind. He conceived a plan to deport or murder all the inhabitants of the Białystok region, then to afforest the whole territory and establish a huge German nature reserve for hunting and research.

Different data concerning the size of the Forest cleansing are given by the historians who have studied the Nazi crimes. Some of them claim that 1,731 inhabitants of 15 villages in the *Reichsjagdgebiet* were evacuated, their houses were burnt and more than 90 Białowieża people were sent to forced labour in the Reich. Others give much higher numbers: 34 villages evacuated and part of the population of 7 villages shot dead; houses of 28 villages burnt and of 6 pulled down; 6,446 people evacuated by force.

The Grand Master of the German Hunt Hermann Goering did not visit 'his' Białowieża during the whole occupation period. He only ordered to let into the Forest the bears seized from Gypsies and half-wild cattle resembling aurochs, soon killed by poachers anyway. For the time being Goering preferred to take rest in the Romnicka Forest, where there were no partisans.

Manhunts in the Białowieża villages and settlements were so absorbing that no one cared about the forest game. Bison breeding was abandoned. The Nazis did not take any bison to the Reich, though; they just opened the paddocks. The first five bison went out into the wild in autumn 1943; the next 20 early in July the next year. They wandered about in the vicinity of the paddocks, accustomed to be provided with food. The famous Biserta was shot by the Germans in 1943 because of her old age. In mid-July 1944, when the frontline shifted to the west, the local meat-eaters

set about their job. They killed the aged Borus, often described by the prewar press, Biskaja, Puszczyk, Pokorna, Pustota and Purytanka and five other bison.

Seventeen bison survived the war. All elks perished. Of 40 tarpans, 25 were robbed by the Reich and the rest were butchered. Single specimens were found after the war in the stables of local peasants.

In the autumn of 1943, the partisan brigade called 'In the Name of the Fatherland' led by Mikhail Jankovsky launched its activity in the Białystok region. Before they marched off to Hajnówka, Jankovsky delivered a speech at the Inter-regional Party Committee meeting at Łapy, entitled 'The protection of the flora and fauna of the Białowieża Forest, a world-class reserve'. He also showed his commitment to environmental protection in the order he issued on 9 May 1944 under a pseudonym 'Martinov':

'To the commander of the B. Khmelnytsky Unit, Comrade V. Bakun, and chief of staff, Comrade V. Shevchenko:

According to the information obtained by the brigade's staff, the Germans intend to carry away bison from the forest or kill them upon their retreat. I order an operational plan to be worked out to save the animals. The Comrades are personally responsible for the implementation of the task. Give the task to the comrades you trust most. Include Comrade Mikhail Tishchenko, the anti-tank platoon of Konstantin Buchkov and the local partisan Jan Okhremchuk. Report on the fulfilment of the task every week. Commander of Brigade Martinov.'

If and how the task was fulfilled, history remains silent. It seems strange, though, that the heroic Soviet commander, hiding himself under a pseudonym, mentioned a local partisan by name. If the message had fallen into the hands of a German spy, Okhremchuk's fate would have been unenviable.

On 17 November 1944 the troops of General Pavel Batov marched into Białowieża. The day before, the Hungarian unit which covered the retreating Nazis burnt the oldest part of

Zastawa Street. Well-aimed shells set the tsar's palace on fire. Only the Orthodox church, rebuilt a year earlier with the approval of the Germans, survived. The Gypsy woman Estera was buried somewhere on the bank of the Biała River. The dark-eyed Zimerman woman from Hajnówka was buried in the forest; the site has been long overgrown by trees.

Orthodox Church at Białowieża

Lekking Grounds

A slightly battered Opel was rolling slowly along the road from Hajnówka to Białowieża. Its terrified driver watched for robbers, whom he thought to be 'hanging around for sure'. A long line of horse-drawn wagons appeared in the lights of the mud-spattered car. The inhabitants of forest villages and settlements of Budy, Czerlonka and Topiło, evacuated by Goering, were coming back from exile to their houses – burnt and overgrown with weeds.

In the devastated park over the hill on the Narewka River, towered the ghostly remains of the palace. The wind clattered in the broken gallery, the one so liked by tawny owls. Sleet was falling on the burnt-out black holes of palace rooms; the remains of decorative parquets were covered by icy slush. It also covered the last broken pieces of furniture, fireplaces, torn cordovans and Viennese wall-paper hanging down on mouldy walls of tsarist hunting studies and bedrooms. The odour of smoke and rot and a touch of death was present all around.

In the nearby Hunting Lodge, saved from the fire, the creaking door, long in need of oiling, opened slightly, showing the newcomers the deserted rooms and mildewy wall panelling. The bitter cold and the hollow sound of their steps completed the atmosphere of the place. They heard a bomber flying up above. The partisans waiting for an air-drop sent up a flare to the sky. The plane turned back in a circle and after a while its drone faded away in the distance.

This is how on 12 April 1946 the Białowieża Forest greeted three worshippers of St Hubert, exhausted by the war and badly missing a hunt. They left their important offices in the ruined Warsaw for a few

days in order to do some killing: not out of necessity and not of people, but for fun and of capercaillies.

What a bad luck! Night fell and huntsman Wagner disappeared, and no wardens could be found in the 'truly Belorussian vastness' of Białowieża. Wagoners declined to go or demanded a steep price for the 16 km night drive to the lekking grounds. They wanted as much as 3,000 złotys, saying that they feared Ukrainian partisans, other bandits and deserters. At last, around one a. m. one of the wagoners was forced to go. Also, warden Wołkowycki was found. 'Commandeer the huntsman's horse! Harness it! Take two wagons! Szpakowicz, hurry them!...'

In the rising daylight a song was sung by a bird sitting on the top of a small pine. Its dark silhouette with an open bill and drooping wings was visible against the sky. The cock curled and uncurled its beautiful tail like a lyre, the bristled feathers on its neck vibrated from his calls. The bird was deaf to any other sound. A shot! Then another one echoed from the far side of the morass...

The flames of the fire made in a hurry were reflected in the eyes of happy hunters and in the dead eyes of the capercaillies. 'Don't worry', they consoled the less lucky lawyer. 'Tomorrow we'll hunt again. Not to get in each other's way, you will stay at Browsk with one of us and the third will have a try in the Starzyna division'.

The next day around noon warden Niemcunowicz, a man over sixty, sat on a pile of birch chips waiting for the arrival of a VIP from Warsaw. 'Damn it,' he murmured angrily, tousling his grey beard and spitting to the ground. He heard a rattle of the coming railcar. 'The likes of him will get fixed up with anything. The wagoners refused, so he tricked the forest railways into it!'

'Hey, Niemcunowicz, how are your capercaillies?'

'Bad. Only one sings, no one knows where. The rest were killed off, Sir. First the Germans, then the army and now poachers. Under the tsar, there were a lot of them. Fifty cocks used to sing at Starzyna alone.'

'So we'll go to get this one...'

'We could,' the best game warden ever, old Niemcunowicz, answered with clenched teeth.

The dawn was breaking. Two men walked along the edge of the marshy coniferous forest. One, carrying a sporting gun on his shoulder, was a man in his prime, erect and brisk; the other, bent with age, was coughing and shuffling his feet with difficulty.

'Oh, it's hard to be old, my bones are aching so badly,' he complained.

'Hush, Niemcunowicz, you'll scare my singer,' hissed the hunter, looking at him with suspicion.

The soil became raised and harder, the trees denser. A new day began. Time to finish the stalking and go back to the gamekeeper's cottage empty-handed. The warden sat on a stump with relief, but the stubborn hunter was still waiting, still listening for something. And they actually heard a new sound from a distance, piercing through the old man's cough – an unrivalled song of a capercaillie at a lekking ground. The warden stood up quickly and said they should be going...

'Wait a minute here, Niemcunowicz, I'll approach it in a line and listen.'

'As you wish, Sir,' said the warden and sat down with resignation.

The cock sang in the pine wood. The hunter hid behind a thick trunk, but he couldn't see it yet, it was too early to shoot. Suddenly he felt a chill in his back as if a wolf was looking at him. He turned slowly and saw old Niemcunowicz standing on a small clearing some ten steps away and waving his cap. When it didn't help, he suddenly had a fit of loud coughing. The bird flew away flapping its wings...

Over 25 years passed in no time. The sound of the palace being blown up with dynamite was long forgotten. The ugly Iwa hotel built on its foundations accommodated school parties and other tourists, while important persons and foreign guests stayed in the flat-roofed building erected on the site of the tsar's Hunting Lodge, set on fire by someone in 1962. It was equally ugly and fitted with bugging devices.

In the mid-1970s government limousines parked in front of the row of balconies baring their teeth at the Forest. Professor Kazimierz Secomski, deputy prime minister, came to Białowieża himself to hunt capercaillies. Although the game wardens hinted that there might not

be any lekking that year, since the number of cocks was greatly reduced, but the leaders of the nation knew better. The minister was too familiar with the woods and he had already taken away too many singers from here to be easily cheated. He had his own informants and he knew that capercaillies were singing at Browsk, precisely in Unit 99.

They say Jan Romańczuk did the job. The warden was a soak, but to guide hunters through the swamp there was no better. Every time comrade minister raised his gun to aim at something, imagining another trophy on his study wall, when Jan, struggling with his enormous hangover, shouted hysterically:

'Fuck you! This is the last capercaillie in the whole of the Białowieża Forest! Shoot, son of a bitch! I'm going to booze.'

They also say the hunter was so ashamed he did not shoot. A row of limousines soon disappeared from the yard of the Hunting Lodge and comrade deputy prime minister never came back to Białowieża. Or maybe that wasn't true. Maybe the bird just flew away, warned in time.

The capercaillie belongs to the order of Galliformes. Until quite recently a common bird in the whole northeastern Poland and in the mountains, today the species is under protection.

It is one of the biggest birds in Poland. The cock may be over 100 cm long (together with the tail), the wingspan is 144 cm and the weight 6 kg. Hens are one-third smaller. Both sexes differ in plumage and also in posture: 'the cock is brave and proud, while the hen is bent down and humble like a domestic hen'.

A male's head is covered with grey and black feathers with a metallic green gloss. Beneath a large, yellowish white hooked bill is a black beard of six-centimetre-long stiff feathers. Over lenticular eyes he has red combs. The back and wings are rusty brown mottled white, with a triangular white patch on both wings at the shoulders; the breast and neck are the colour of the head. The fan-shaped tail consists of 16 to 20 large black tail feathers ringed with white at the ends. The male's short and strong legs are heavily feathered down to his grey toes. In autumn horny comb-like outgrowths cover the toe sides to make it easier for the birds to walk on snow and tree branches covered with ice. The black claws, like in all gallinaceous birds, are big, arched and hollow on the underside.

The hen has protective plumage; when sitting in the nest or leading her chicks, she completely merges with the surroundings. Her rusty brown feathers with many stripes, zigzags and spots in grey, tawny, reddish and white have no metallic gloss. She has a big rusty breast patch.

Capercaillies settle in vast, quiet forests, both mixed and coniferous. Pine is their favourite tree and they prefer open tree stands of varied age, rich in brushwood and undergrowth, especially bilberry. They like wild forest meadows, single trees overtopping dense young forest, streams and areas rich in sand, needed for bathing, and gravel, essential for the proper grinding of food in the stomach and digestion.

They are alert and cautious birds. They walk fast but their flight is heavy and noisy. They are very well adapted to a severe climate.

In winter they bury themselves deep in snow, where they can stand very low temperatures. In this difficult season they live in small groups, mostly of the same sex. In summer they live alone.

In March and April the cocks display in what is called a lek – for many years in the same place in hardly accessible old tree stands. This is where they always fell an easy prey to hunters, who collected their stuffed dead bodies. The oldest cocks go out to leks as early as February; then flock the younger males and hens. Every bird displays on a separate tree. The cocks begin to sing at two or three a. m. Their voice is heard by man from a distance of 150 steps. While singing, birds bristle their beard feathers, raise their heads, spread the tail fans and droop the wings. At dawn the cocks fly down to the ground and continue their song or fight with one another. The hens stay close all the time and produce a nice sound, which is answered by the suitors. When the sun rises, all birds fly away to their feeding grounds. They come back in the evening and with a noisy flatter of wings they fall asleep amid tree branches.

The magnificent big shape of the bird against the greying sky, the enchanting beauty of the forest at dawn and the scent of early spring create a unique atmosphere. The song, praised so much by poetically-minded hunters, is a series of short, 7 to nine-second clatters, rattles, puffs, rustles, rasps and pops like those of a cork coming out of a bottle. Unfortunately, while rasping, the normally alert bird stops hearing for a moment and it sees very little, too. Man takes advantage of this temporary impairment and can approach near enough to be able to aim his gun at the much-desired trophy.

There are people whose dark labyrinth of soul lets them think it is a very useful thing to interrupt lek displays and shoot lead at the helpless birds, which have luckily survived through winter and are about to reproduce. Hunters consider it a noble deed, something to be proud of. They deal similarly with other animals. Until recently they killed grouse, hazel grouse and ruffs during their

mating time; they still do kill breeding woodcocks, wild ducks, deer, roe deer and elk.

A hen which has been fertilized several times by a male goes away from the lek and chooses some secluded place to make a simple nest on the ground out of dry leaves and grass and her own feathers. After 28 days of incubation 6 to 16 chicks hatch out of yellowish, brown-spotted eggs. The hen raises them alone. The chicks are born with full plumage and so fit that they can leave the nest almost at once. Ten days later they start to fly and after a fortnight they can fly well. At the beginning they eat only animal food, such as the larvae of ants and various insects; later they start eating vegetable food: delicate buds, small leaves and forest fruit. In autumn and winter all capercaillies feed on pine and spruce needles, seeds and dormant buds of trees and shrubs. In warm seasons they enrich their diet by taking some worms, arachnids, insects, snails, amphibians and reptiles. They are also fond of larvae of insects along with the carrion they have stored.

In the summer 1944, just when the front line shifted to the west, a self-appointed representative of the Soviet forest administration

appeared in Białowieża out of nowhere. Comrade Khotchkov proclaimed himself the manager of Białowieża National Park. Edward Więcko, newly appointed by the Polish Committee of National Liberation (PKWN) as the organizer and head of the State Forests Management in Białystok, showed quick reflexes. He immediately sent his subordinate W. Słomski to the command of the 2nd Belorussian Front to beard the lion in his den. By a miracle he managed to get a written order from General Subotin addressed to Khotchkov, who was ordered to submit the management of Białowieża National Park with all immovable and movable property to the Polish authorities without delay. Więcko himself brought the letter to Białowieża. Comrade Khotchkov could do nothing else but pack his things and promptly fade from view. The park management was passed to Stefan Krukowski and J.J. Karpiński, who was soon appointed director of the National Park and manager of the Forestry Research Institute Department, to which Białowieża National Park was affiliated for several years to follow.

On 9 November 1945 the Communal People's Council in Białowieża convened a special meeting and passed the following resolution:

'Considering that it is in the interest of the state, the nation and the local population to preserve the National Park intact, and that the scandalous attitude of some individuals towards this place – like poaching, embezzlement and malicious acts, as well as improper behaviour of the personnel appointed to guard it, the Communal People's Council has decided to counteract the irresponsible acts of the local people, such as embezzlements in forest management, poaching and illegal tree felling of protected tree stands. It will be done in cooperation with leaders of the local political and social organizations, the clergy, schools and the police. The management of Białowieża National Park and the

◁ *The coniferous forest*

Hunting and Forestry Department shall be obliged to deal with all offences of these kinds with severity and according to the regulations in force.'

On 2 November 1946 – an exceptionally sunny day – 15 mass graves of some 200 Nazi victims were consecrated in the strict reserve of Białowieża National Park in the presence of a guard of honour.

In 1946 forest wardens worked unarmed and the State Forest Management was moved to Białystok, so poaching and lawlessness continued. The preserved game included two elks, which soon vanished; deer and roe deer populations decreased to 25% of the prewar number; scarce wild boar piglets had no chance of survival. Capercaillies suffered a bad lot. Only a memory was left of the early spring times when hundreds of cocks sang in dozens of places at once. The last few lekking grounds remained at Browsk and Starzyna. The wardens, some of whom were trained in the tsar's hunting farm, or in President Mościcki's primeval forest, could not accept the killing of these birds by the privileged guests, totally without scruples.

Their sport of hunting right after the end of war operations was not only foolish but also very unfair. Forest villages were burnt down or in ruin, the graves of murdered people were still fresh and crowds of homeless people were coming back from exile. Mines laid in the forest by the retreating Germans, bands of robbers on the roads from Brańsk to Siemiatycze and Hajnówka, partisans fighting against the new regime hiding in the forest and game almost completely killed off – such was the gloomy reality of daily life at Białowieża. In this setting of human misery, disaster and threat to life three 'mighty hunters' appeared: the owner of the Opel – a Warsaw lawyer unknown by name, Z. Zabłocki and the instigator of the capercaillie stalking Z. Kowalski, then editor-in-chief of the monthly *Łowiec Polski*. The passive resistance of the huntsman Edmund Wagner, wardens and even simple wagoners brought meagre effects. On 18 April 1946 the prominent

hunters left Białowieża with a rich quarry. They had four cocks in the boot of the Opel and the fifth one was left wounded and dying somewhere in the woods.

It was more or less like this in the whole country in the following years. Nothing could stop their destructive passion to silence the capercaillies in lek for good. The rarer the birds became, the more enthusiasm the hunters showed in their exterminating. They raced to kill, say, a hundred cocks, and on hearing it was the last one in the area they were determined to have it. The statistics were fabricated. The owners of People's Poland, as the comrades recommended by Warsaw party circles were called, visitors from abroad paying in foreign currency and the well-connected, or 'friends of the rabbit' kept coming to Białowieża.

In May 1961 a meeting of State Forests managers from ten forest divisions where capercaillies still occurred was held in Lublin. It was attended by representatives of the Polish Hunting Union and the League for Nature Protection. They deliberated on how to preserve the capercaillie in its last habitats. First they endlessly discussed the term 'habitat' itself: whether it was a hatching place only or a feeding ground too. To make life easy and not to limit logging by their definition, they decided a habitat was the nest and lekking ground where more than three cocks sang. As regards hunting, they resolved that lekking grounds would be divided in two zones and hunting would be permitted in them in turn. They also decided more foxes would be shot. Finally, they congratulated one another their future successes and left the conference assured that the capercaillie had been given a chance to survive and develop.

Before the sluggish bodies responsible for environmental protection made appropriate decisions, the capercaillie was nearly extinct in Poland. In the Polish part of the Białowieża Forest males were killed off in the mid-1970s. Lonely females were encountered for some time after that, but soon they perished, too.

Today hunters can only discuss the reasons for the extinction of those magnificent birds, once very common and well-settled in the Białowieża Forest.

The Anti-Wolf Campaign

An end to the robbers. The anti-wolf campaign in the Białowieża Forest has gathered momentum. Due to the strenuous efforts of forest wardens in cooperation with the forest administration and the members of the hunting clubs at Białowieża and Hajnówka, a pack of 9 wolves in the state forest division of Starzyna,

A wolf

State Forests Region of Białowieża, has been eliminated.' This short information published in *Łowiec Polski* rehabilitated the forest administration and hunters. It was high time, though. The whole country struggled hard against the wolf plague, except the Białowieża Forest. Were the pests absent from the Forest? Or maybe the hunters neglected their duties; by means of intended sluggishness they sabotaged the workers' and peasants' Fatherland.

The situation was embarrassing. At last, in spring 1957 wolves fleeing persecution in other, more populated regions, came to the Białowieża Forest. One family settled in the national park, another on the Sine Bagna swamps at Starzyna. Their tracks were spotted on muddy roads but no one knew where their dens were. The predators were so scared and shy.

At the end of July gamekeeper Stefan Niemcunowicz was walking in the riverside meadows at the national park border, when he noticed something in the distance. Through binoculars he saw a family pack: 7 pups led by a male wolf and a lame female. It was an open space with some haystacks scattered over it and it was impossible to approach the wolves closer. A lead bullet shot from 150 metres at the male only scared the robbers away. The wolves ran to the reserve, where it was not allowed to shoot them. It was necessary to wait patiently till they left their safe haven again.

A month passed without any news of the predators. On 4 September, at noon, forester Jan Szpakowicz was picking up timber from the storehouse by the forest railway at the Zwierzyniec division. Far beyond the meadows across the Narewka stood the dark wall of old tree stands in the strict reserve. Suddenly four wolves appeared on the rail tracks. At the sight of a man clapping his hands loudly they turned back and ran away. Several minutes later one more wolf followed them. It was good news: wolves with their young had left their lairs in the reserve. Any time now they would be spotted in the managed forest.

Next morning Niemcunowicz saw 'his' wolves chasing a roe deer in the riverside meadows. Now it was sure that the pack had settled in Units 253 and 221.

The anti-wolf campaigners divided their roles. One group guarded the neighbourhood of Starzyna, the other, which included the most skilful trackers, watched the forest surrounding the timber storehouse at Zwierzyniec.

On 6 September they could report to their superiors that the pests were being tracked. The pack from Starzyna moved to Unit 698. Telephones started ringing to summon hunters; at the assembly point they hurried to load a lorry with flagged ropes and the car engines were already started. Huntsman Mańkowski from the State Forests Region at Białowieża sat in the first car. The operation went very smoothly. At one o'clock they started to unwind the ropes with flags, with which they fenced off the whole unit. Hunters were positioned densely at middle vista. At a given signal several chasers rushed into the woods...

Within five minutes they had killed four wolves. With the others they had some trouble. Chased several times into the middle of the vista, they twisted and turned and lay flat on the ground. Finally, one of them was killed and two escaped wounded.

A row of four dead pups and their mother were lying on the green grass – enough to boast in the hunters' press: 'such a display of wolf trophies won in a single day has not been seen in the Białowieża Forest for a long time'.

But they could not stop at that – a pack of six wolves was still harassing the Forest. It became even more urgent when the pack chased a doe into the Narewka on 8 September. The Białowieża hunters lost patience: 'We must put a stop to the robbers as soon as possible!'

On the night of 9 September wolves were heard howling in Unit 253. At dawn the predators were in the same backwoods. A choir of young wolves answered the warden's call.

Telephones started ringing again in hunters' houses; the lorry loaded with ropes was ready to go. Two units: 253 and 221 were flagged tightly. It was hard work: the chase and shooting lasted two days. In the evening of 11 September the hunting service celebrated their victory. Four young wolves were shot dead and two were badly

wounded. Honours were paid to the heroes of the hunt and *Łowiec Polski* received more news of a successful fight with the plague of wolves in the Białowieża Forest.

The success was so big that it took 40 years for wolves to start howling in the Forest again.

After the Second World War the State Forests Region was established in the Białowieża Forest, which comprised eight divisions: Białowieża, Starzyna, Leśna, Hajnówka, Zwierzyniec, Narewka, Browsk and the Lacka Forest. Hunting was supervised by huntsman M. Mańkowski with the help of ten wardens. It was their task to 'recreate the traditional Polish hunting grounds in the Forest, rich in native game'. In autumn 1957 the huntsman reported to his authorities: 'Our work has already brought some results. We have collected and stored enough winter feed for game from our own fields, namely oats in stacks, hay and potatoes. We have started gathering acorns and horse chestnuts. Some small fields amid the forest were left green. Huntsmen and wardens have been equipped with arms to kill dogs, cats and predatory birds. We have paid special attention to the great number of breeding wolves, which do great damage to the game. These predators are effectively eliminated'.

The terrible wolf of fairy tales is a close relative of our best friend, the dog, and resembles a big German shepherd dog. It often happens that grey village dogs mixed with Alsatians, which stray in the forest, are mistaken for wolves. However, those who were lucky enough to see a real wolf know how different from dogs they are. The wolf is a wild, alert and timid predator of big game, fit for long migrations. Its strong, slim body is covered with dense, long greyish brown fur in winter. The tail is bushy and stiff, the legs are long and narrow. The slightly slanted hazel eyes of the wolf are intelligent and attentive. The biggest males are over 130 cm long, 60 cm wide at the shoulder and they weigh up to 80 kg. The females are slightly smaller and lighter.

Wolves spend nearly the whole of their lives with their kindred. In order to prevent aggressive behaviour, which would break the pack's unity, wolves have developed a complex dominance hierarchy, where each individual precisely knows its place. To avoid conflicts these social animals use a range of eye and muzzle, tail and

whole body movements to communicate their mood and intentions to other wolves. A lonely wolf, especially in winter, must be a pariah, expelled from the pack because of its evident weakness or his breaking of the wolf laws.

In mid-winter, usually at the end of January, a peaceful pack of up to a dozen or so animals starts to generate a tense atmosphere of rivalry and irritability. It means that the females are beginning their mating season. The pack disperses and for about a fortnight the males fight to win the favours of a chosen female, which keeps escaping. During those runs and courtship rituals, the males fight with one another, eliminating the rivals until one wolf accompanies one female. The newly joined pair settle in an extensive home range, with their den in its centre. The den is a hole in the ground, a pile of dead trunks and branches, a dense thicket or a bushy island surrounded by swamps. A litter of 2 to 7 blind and helpless pups is born in April. Their mother never leaves them alone for almost two months, so initially the father wolf is burdened with the duty of feeding his family. The pups suck milk for a month and a half, but from the fourth week of their life they obtain meat regurgitated by their parents. When they grow bigger their appetite becomes so huge that both parents have to cater for them. Sometimes a young wolf born the previous year takes over the care of its younger siblings when the parents are away. In late summer the juveniles, as big as a grown up fox, leave the den and closely follow their parents. Then they wait hidden in the bush or dense grass till they hear their mother's howl calling them for a meal of freshly hunted meat. In autumn, when their milk teeth are replaced with permanent ones and the young wolves weigh over 20 kg, they begin to hunt with their parents, learning to track, chase, corner and kill game. They spend winter in their own family group or unite in a pack with some other families.

Wolves feed mainly on meat of hunted animals and carrion. In summer they hunt hares and small rodents, devour hatchlings, amphibians and reptiles, snails and insects, and even forest fruit

such as bilberries, fallen wild cherries, pears and apples. In winter, in a larger pack, they hunt big game: elks, deer and roe deer, wild boars and in the past also bison.

In old dense forests, wolves organize regular hunts with a chase. First they roam about the forest for a day or too, easily visible to other animals. Deer get alarmed and hide in the backwoods where wolves do not enter. Their density in those areas grows. It is time for a hunt. A group of wolves moves in a line so that the wolf that follows puts its paws exactly on the track of the preceding one. When they detect the scent of a doe with a fawn that they are chasing, the pack divides. Two or three wolves silently go sideways, overtake the game and lie in ambush in front of it. In due time the rest of the wolves pursue the deer slowly in

'February in Lithuania' by A. W. Kowalski

a fan-shaped formation without concealing themselves. The deer get scared and run away in panic directly towards the wolves in front. The latter jump out of their hiding and the deer are circled. In a split second the wolves catch their victim and it is all over. Conducted by an experienced pack of wolves, operations like this are handled at a distance of several hundred metres and are always successful.

Man's approach towards predators, wolves in particular, has always depended on one thing, namely cattle breeding in a given society. The migratory Indian hunting tribes did not mind wolves. On the contrary, they liked and respected them. Wolves were represented as holy totems of families and clans, Grey Wolf was the name of brave chiefs, Swift She-wolf – of the most beautiful girls. The Indian tales and legends do not include naive stories like that of Little Red Riding Hood. The scarcely populated prairies, Canadian primeval forests and Alaska had enough buffaloes, wapitis, caribous and musk oxen for all hunters in these territories. American predators were not treated with hate until white settlers conquered the American continent. They bred cattle and were greedy for hides.

In Europe there is no country where wolves would enjoy the right to exist. The species has survived only because man has not yet managed to eliminate it completely from the thickest forests. The wolf was and still is in conflict with farmers who breed cattle. The domesticated (and so degenerated) sheep, cattle and horses, closed in a paddock or kept on a chain, left on pastures for the night near the wolf ranges inevitably fall prey to the predators. This easy-to-get, sumptuous meal available from spring through autumn cannot be resisted by the braver or very hungry wolves.

In Switzerland special anti-wolf units were kept for decades starting from 1799, when wolves came there in great numbers following Suvorov's army. In England, although the last wolf was killed in 1680, the official post of a wolf-hunter existed almost till

our times. A piece of interesting historical information on the attitude towards wolves shown by West-Europeans, today stout defenders of Polish wolves, is found in the memoirs of Jan Chryzostom Pasek under the year 1658. At that time, the brave soldier and unmatched storyteller that he was, Pasek stationed with Czarniecki's army in Denmark. There they poached deer by chasing them down into pits from which peat was dug. He learned from the local people that wolves did not occur there. 'For when they see a wolf, everyone is obliged to go out of their houses, in towns and in villages alike, and chase that wolf as long as it takes to kill it or drown it or catch it. Then without skinning it they hang it on a big iron chain on a high scaffold or upon a tree, where it hangs as long as its bones withstand. Not only would they not let it reproduce but they wouldn't let it stay even one night, if it happens to come for deer through the only one narrow isthmus passing there between the seas.'

The black legend of a wolf as killer of humans is a different story. Walerian Kurowski in his book *Hunting in Poland and Lithuania* of 1675 wrote: 'Wolf is a species of wild dog, the most virulent, most harmful and tricky animal, which not only kills wild and domestic animals but also attacks people in time of frost.'

It is impossible to find out today what the truth was: whether the predators were tempted into eating human flesh by all the corpses that carpeted the thousands of battlefields of Europe in the past, whether they really attacked wounded soldiers and lonely travellers, or it is but a blatant lie and propaganda. Were the big, dark-coloured individuals known as horse-killers, which attacked cattle in daytime and in front of peasants' eyes, pure-blooded wolves, close relations of the timid grey shadows which hid in the most inaccessible lairs, or rather crossbreeds with big dogs?

Some horrifying stories are found in old hunting periodicals. For instance, in 1911 'a Jew coming back home from village to town through the Białowieża Forest was attacked by a pack of wolves, which tore the poor woman to pieces'. In January that

same year, on a road near Dubowlany two miles away from Minsk four wolves attacked a peasant going on foot and tore his clothes. His loud cries were no help and he was lucky a few wagons were just passing by. The wagoners started to shout crazily but it did not scare away the wolves, either. One of the drivers carried a few pieces of iron for the blacksmith and he began to strike iron on iron. It was only the clinking noise of metal that frightened the starving beasts and they moved away, though very reluctantly. In another place at the border between the Lida and Słonim districts wolves attacked a local communal clerk, one Rafałowicz. He chopped three of them to death with his sabre, but the rest tore him to pieces.

There is a written account of a hunter with literary inclination, a landowner at the eastern borderland named Władysław Czerniejewski: 'I was struck by the terrible view. On a large patch of trodden-down snow in the ravine I saw plenty of blood spots, pieces of a broken stick, scraps of clothing, then an arm bone and in the middle of the ravine – a ravaged skeleton of some poor man with ripped bowels, sticking out ribs and face stripped of flesh. Judging from the traces left, he must have fought a long battle with three wolves, which had followed him for a long time before they attacked him.'

The list of wolves' crimes in the financial year of 1924–1925 included 3,169 killed horses, 6,866 foals, 2,890 cows, 9,655 pigs, 22,381 sheep and 26,381 domestic fowl. In the same year 168 wolf attacks on man were registered, in which 11 people lost their lives. During that period 3,099 wolves were killed.

A dozen years later in 1937 in the Polesian villages of Tymoszewicze and Hryniewicze two wolves seized 500 sheep and pigs and ten children. The tragedy took place in the summer months of July and September and happened usually in daylight between 9 a. m. and 1 p. m. Children were kidnapped from fields or from cottage yards. Five were devoured and the others were rescued often in the last minute. The descriptions of those acci-

dents in police records are very interesting. The attackers hunted and killed their victims like real wolves hunting game. But they did not look like typical wolves. Each of them had a white ring on its neck and they were afraid neither of people nor of fire. That explained the mystery. Our eastern neighbours trained Alsatians to guard the thirty-kilometre deserted belt of borderland. The Alsatians were crossbred with the Polesian wolf. The first generation of such a crossbreed quite naturally retained the dog's impudent courage as well as all the features of the wolf. The white rings on their necks were left by dog collars.

At the hunting exhibition in Lvov in 1936 some black wolf hides were displayed to the amazement of the public. They were killed near Skole and their story was quite curious. A family consisting of parents and nine pups was caught. The male, female and four young were almost all black, the rest had the usual greyish brown coat. When the hunters asked the local people, they learned that during the Great War in 1915 one of Russian officers in the trenches had a big black sled dog with him – an Alaskan Malamute or husky. The dog was later seen running with wolves.

One of the reasons for the almost suicidal aggression of wolves towards man was an epidemic of rabies. This was and still is the gravest danger in our contacts with wild animals. Before microbiological studies found out it was an infectious disease, people thought it was caused by heat, thirst and sexual arousal. Then they believed there was some poison in the brain, vertebral column as well as in the lacrimal gland and other glands of sick animals, which was a bit closer to the truth.

The possibility of meeting a sick animal appeared terrifying. 'A mad wolf is highly dangerous for man. While normally it avoids people and runs away from them, when afflicted with this pernicious illness it looks for people and attacks them. Cases were reported of wolves rushing to villages, into cottage yards and even through open doors to vestibules. A mad wolf usually knocks its victim over and bites terribly on the chest, face and head.'

In old times a few remedies were know to save the life of people bitten by wolves. One of them was dog lichen. In 1835 hunting and forestry periodicals published a recipe for preparing and dosage of an infusion for rabies. It consisted of loosestrife herb, hawthorn bark and garlic sprouts. The treatment had the best effect if used immediately after the first symptoms appeared.

At the beginning of the 20th century the director of the Pasteur Institute in Vilnius, Doctor Witold Orłowski, compiled a statistics of all cases of people bitten by rabid dogs and wolves in the Suwałki, Grodno (the vicinity of the Białowieża Forest), Kovno, Vilnius, Vitebsk, Minsk and Mahilyow guberniyas (provinces) in the years 1897–1914. In these territories 9,774 people were bitten by dogs and 130 by wolves infected with rabies. 25 of them died.

The rapid progress of medicine and constant improvement of vaccines for dogs and serums for people greatly reduced the danger of catching rabies. Within the new borders after the Second World War Poland lost most of the territories inhabited by the wolf. Nevertheless, neither the fear of the grey predator nor hate towards it disappeared.

The anti-wolf hysteria overwhelmed the Polish authorities in the early 1950s. It is hardly possible now to estimate the actual number of wolves in Poland in the postwar years and the losses they inflicted on State Farms. It was a political problem, like the struggle against the kulaks (prosperous peasants), the potato beetle (reportedly spread by the Americans) and other ideological enemies of the working people of cities and villages.

The wolf became Public Enemy No. 1 of the People's Poland and it was given a death sentence. For a start, Resolution No. 75/55 of the Cabinet of 29 January 1955 was passed, which declared:

'The presidiums of the provincial people's councils shall immediately undertake activities aimed at the elimination of wolves by means of chases or other permitted methods.

The following rewards for hunters are introduced:

a) for a wolf hunted individually 1,000 złotys

b) for a wolf hunted in a group 500 złotys

c) for a wolf pup taken out of a den 200 złotys.

The minister of finance shall secure credits to provincial people's councils for the implementation of the anti-wolf campaign and rewards for hunters.

The resolution comes into effect on the day of its signing and is valid from 1 January 1955.

Signed by: Prime Minister Józef Cyrankiewicz.'

As the extermination of the species did not proceed quickly enough, on 6 December 1955 the minister of forestry excluded the wolf from the list of hunting game and declared it a pest, which could be killed by everyone at any time and place. A special regulation divided the country into operational regions with a high population density of wolves, to which the Białowieża Forest belonged, and those with a lower density. There were no regions qualified as free of wolves.

Between the years 1956–1959, as it was reported, 1,435 wolves were shot or poisoned with phenobarbital, while 300 disappeared. On 1 April 1959 the whole population of wolves in Poland was estimated at 255 individuals. In seven provinces, e. g. the Opole, Wrocław, Łódź and Szczecin provinces, they were completely extinct, although not a single predator was killed there during the anti-wolf campaign.

It was not until 1995 that, as a result of mounting pressure of environmentalists and NGOs led by the Workshop for All Creatures, the wolf was declared a legally protected species, with the exception of the Krosno, Nowy Sącz and Suwałki provinces. From September 1997 the wolf has been on the official list of animals, the damages caused by which are compensated by the State Treasury. In 1998 the minister of environmental protection temporarily extended the ban on killing wolves to the whole territory of Poland.

A Forester

On Thursday 11 July 1974 summer held sway completely over the Forest. The green umbrellas of leaves shading the cushions of moss from the sun, the sleep-inducing hum of mosquitoes over the swampy pools, the squeaky calls of fledglings which had barely left their nests and the aroma of warmed conifer needles created the atmosphere of peace and security.

In the tranquillity of Białowieża National Park's strict reserve a great dark brown animal moved between the trees. Its furry, bearded head was crowned with a pair of black horns set so widely that a man could sit between them. Its pronounced shoulder hump and large strong muscles visible under the skin showed the giant's power. The bison was grazing, picking up green shoots of linden and hornbeam with its lips and grinding them with a low, crunching noise. A swarm of flies circled around its gentle dark eyes and moist, fleshy nostrils. Its bluish pink, rough tongue gathered the juicy grass and blooming herbs overgrowing the forest meadow. Age-old oaks with greyish brown, deeply cracked bark, and moss-covered, hollow lindens stood around motionless and silent, the only company of a solitary bull. It was close on noon. The bison's swelled sides told him it was time to stop eating and lie down somewhere nearby to have a nap and chew again the green mass filling his rumen. The bull leaving the feeding ground was fully visible in a gap between trees. He was still limping after the tendon in his right front leg had been torn during an escape eight days before. The pain had not yet eased. Together with another, younger bull, they were caught scouring a village meadow. His companion was killed on the spot. He ran away from the bangs of

missing shots towards the distant reserve, forced the fence and hid in the backwoods, as if he understood that nobody would dare to harm a plant or animal in that temple of Nature.

Some shadows loomed in the trees: three men in green uniforms were walking the forest track. The bison was alarmed. He stood still with his head turned towards the intruders. One of them slowly raised a gun to his cheek...

The bullet pierced straight through the right side of the bison's forehead, the muzzle and palate. Another one hit his jaw. For a moment the animal stood in shock, while an excruciating pain was flooding his brain with a red mist. Before the sound of the shot had died away, the bull made one or two steps, faltered and tried to run, but he was only able to bend his knees and fall. With a deep sigh he lay down on the ground, his head raised proudly, as if he was just going to chew his last meal in peace. Ten minutes passed and the men stood waiting. Meanwhile, two wardens were running fast to the site. They came gasping only to see a uniformed man with a national park badge shoot at a lying bison...

The bullet hit the bone above the left eye, missed the brain and passed through the left temple. The bison bent his head, moaned painfully and pressed his blood-covered muzzle to the pillow of herbs. Finally, the last bullet aimed at his left ear crushed the bones of his neck and went through to hit the nearby tree. After a while, as long as eternity, the giant animal fell heavily to his side. When the bison was kicking the earth in agony, his murderer checked the gun and put it back in place, carefully closing the leather holster.

That day was a cleaning day in the Palace Park, as some comrades from the provincial committee of the party were expected. Forester Jacek Wysmulek had to skip his daily rounds in the reserve and help supervise the lawn mowing, raking of alleys and collecting of litter in the park. Here the wardens found their boss at last. Outraged, they reported chaotically, that they each heard a poacher shooting in Unit 371 at 11 o'clock before noon, while they were making their usual rounds. Risking being shot themselves, they mounted bicycles and rode

there to catch the criminals. To their amazement, over a lying bison they saw their colleagues from the Bison Reserve and their manager killing the animal off. Then they cut off the bison's head and opened its belly, threw out the stomach full of feed and left all that was 'good'. Then a wagon came with many people, who cut young lindens and bushes to make space for the loading and transporting of the bison. The horrifying load was carried along the sightseeing route and left the reserve through the main gate. On the way they passed children visiting the sanctuary of nature with guides. The tourists were shocked. They took photographs of the smiling hunters and asked why they were allowed to hunt protected bison in the reserve where other people could not even pick up a flower. To all the questions and the wardens' protests they had one answer: 'We had the director's permission'.

It took the forester quite a long while to understand. What bison? Who killed it? Which director allowed it? The man, who loved the Forest deeply, was overwhelmed by one thought: 'It's impossible! Impossible for anyone to permit the killing of bison in the strict reserve. Impossible for a band of armed people with a horse and wagon to force their way into the heart of the forest and kill a protected animal, to destroy trees and shrubs with axes, and then to carry the carcass with triumph through the main gate. It's impossible not to let the forester responsible for the reserve know about it. Besides, he met the director this morning. All that is simply impossible!'

On Friday the forester came to his director's office at 7.30. Standing to attention, he reported the crime, described its circumstances and suggested that an inspection of the scene be made. Director E. Watoła listened sitting at his desk; then he stood up and cut his subordinate short: 'You are making a mountain out of a molehill. It was all done correctly. I'm sorry you don't understand such simple things, so there's nothing for us to discuss anymore. Please take better care of the lawns!'

The forester Jacek Wysmułek, an obstinate idealist, romantically in love with the Forest and its bison, was in no mood to confine himself to an oral report. He wrote down the wardens' evidence and wrote an

A solitary bison

official report, which he filed to his boss. Ten minutes later he was again standing to attention in front of his enraged superior. 'I consider my further collaboration with you as a forester impossible. I suggest you file your resignation,' he said.

The most imposing specimens of the bison, the biggest mammal now living in the wild in Poland, are about 3 m long, stand almost 2 m at the shoulder and weigh 800–900 kg. They used to be even bigger in the past. A bison killed in 1555 was 4 m long and weighed 1,000 kg. Cows are always a bit smaller and lighter. They mature physically at the age of 4 or 5, while males at 8. The longest documented life of a bison was 26 years.

A characteristic feature of the forest giants is their strongly developed, muscular front and slightly smaller rump. This impression is reinforced by the dense fur covering the front part of the body. The proportions are much better preserved than in its close relative, the American bison. It is an amazingly shapely animal: the width of the huge body never exceeds the distance between the horns. The latter, equipped with touch receptors, inform the animal, apart from the eyes, whether its body would pass between two trees standing in close proximity.

The bison has dense, soft, greyish brown fur, at places turning to almost black. It harmonizes very well with the colour of tree trunks and branches. A bison lying or standing motionless is hardly visible even from a close distance. In winter, woolly underhair grows under the long guard hair to protect the animal during the biggest frosts. The fur at the top of the head forms a mane which on the sides turns into a beard and a pretty long mane hanging down from the neck. A bison's head is round in shape, convex and crowned with a pair of curved black horns. The nostrils are big, fleshy and always moist, the eyes are dark and soft when a bison feels quiet and get dilated, reddened and fearsome when it is angry or terrified. Both sexes of the species secrete a strong musk scent.

These typically forest animals in spite of their big size and weight are exceptionally agile and swift. When provoked they can jump over a two-metre-high fence and they can run quite fast, deftly slaloming between dense tree stands. The bison walks in a specific way, described in the early 20th century by Konrad

Wróblewski. Each step is divided into two phases. In the first phase the hoof of one foreleg lightly touches the ground and goes up immediately. It is the examination of the ground, which can be treacherous – for instance, it may hide deep water of a sharp branch. Only then a proper step is made. This double-phase step of forelegs disappears when bison gallop. During one of the bison counts in March I had the opportunity to watch a herd of bison scared away by chasers. Thirty-two of them: males, females and young speeded in my direction like thunder, their hooves hammering on the frozen alder fen. The ice cracked, the noise grew and the giants emerged one by one from behind the trees, raising fountains of water in the air. It was such a fascinating view that I forgot to step aside. The herd ran along the path between me and my colleague standing 30 m away. I was moved to see two furry calves leaping with short steps and all the time clinging to the sides of their mothers.

The main breeding season of bison lasts from July to September. After 265 days of gestation calves are born in the warm season, mainly in May or June. However, if a cow is not fertilized she will mate again until she becomes pregnant. As a result, births can occur in autumn and winter as well. Such late calves have a chance of survival only if the herd is fed by man in winter. I saw such lucky ones during the bison counts.

Poor quality literature is full of bison roaring mightily in the depths of the forest. In fact, bison are almost mute. The only sound their huge lungs can produce is the gentle murmur of mothers talking with their calves and bulls seducing females in heat.

Bison live in herds. In winter they stay close to feeding racks in large mixed herds of 40 to 180. Bulls usually keep in separate groups of 2 to 13 individuals. In the growing season herds disperse in the forest. Bison prefer to graze in fresh humid mixed forests, but they also visit fresh mixed coniferous forest and meadows amid the forest. Over a half of males live in solitude and the rest live together with females and calves in groups up to 20 animals.

In the years 1970–1990 the herd living at liberty penetrated an area of about 13–14 thousand hectares and only some bulls wandered off to more distant places. After 1990 a tendency of the bison population to spread to the southern and northern regions of the Polish part of the Białowieża Forest was observed.

The bison is a ruminant animal. It eats many times throughout the day, mostly grass and forest herbs, some fresh shoots of hornbeam, oak, ash and sallow; sometimes it tears off the bark of a young tree. When its rumen is full, a bison finds a quiet place to lie down and chew its content once more like a common cow, slowly and methodically.

Many centuries ago snowy winters brought hard times to bison. They had to subsist on small branches and the bark of trees. Luckily, people who settled around the primeval forest made haystacks, thus unintentionally feeding bison. In the tsarist times the 'tsar's cattle' was regularly fed. Nowadays, hay with the addition of concentrated feeding stuff, root crops and salt is laid out on specially constructed feeding racks by Białowieża National Park staff. It helps the animals to survive winter in good condition.

Bison are quiet and peaceful creatures. They are not very aggressive. A common bull if not fastened properly in a village pasture is much more dangerous for a passer-by than a bison at liberty. Incidents of bison attacking foresters, peasants, mushroom-pickers or hikers in the forest are extremely rare and they are always provoked by man. This does not mean we should underestimate the bison.

When hiking in the backwoods, we must be very careful not to make a cow with her calf think we intend to harm it. When we see such a family scene it is best to turn back quietly but quickly. A herd of adult bison we can let pass – they will go their own way. Lonely bulls are rather timid and they usually go or even run away at the sight of a group of people. But a single hiker should go round and pass him by at a safe distance, just in case.

A meeting with bison can be dangerous if you take a dog to the forest and it starts to bark at the bison. Thus provoked, it would as a rule charge at the intruder, which to the bison looks like its centuries-old enemy, the wolf. The frightened dog may run for safety back to its owner and the bison would follow it...

The incident with bison shooting in the strict reserve of Białowieża National Park in July 1974 and the sacking of the defiant forester was the subject of press speculation for the whole year. Until this day, though most of the participants and witnesses are still alive, no one has given away the truth, why such a nonsensical disgrace to the environmental authorities could have happened at all. Officially it was announced that the bison was shot in the muzzle as early as 3 July and it posed a threat to people, so it had to be killed. But the expert examination and measurements of

The Białowieża Forest bison

the animal's skull carried out in the Polish Academy of Sciences Mammals Research Unit proved that it was not true. No wounds were found in other parts of the bison's body, either, and its full stomach testified to its good appetite and health. It also turned out that the biggest specimen was shot. Its skull was 84.5 cm wide. Was it a tragic error? Did they shoot a fit, healthy bison instead of a wounded one? Why did the authorities in Warsaw, alarmed telegraphically by the Białowieża scientific circles, PTTK (Polish Tourist Society) guides and ordinary people – all of them appalled at what had happened – recover so quickly from the shock and firmly defend the director? Why was the manager of the Bison Reserve, who murdered the bison in the forbidden territory at the director's order, punished with the same kind of reprimand as the innocent veterinary surgeon, while the wardens lost their bonuses and the forester – his job? These questions still remain to be answered.

The lack of adequate reaction on the part of the authorities to bison killing in the reserve reflected their general attitude to this animal, symbolic of Polish environmental protection. Three decades after the end of the Second World War this attitude was becoming less and less favourable for the bison.

It was recorded by the Białystok State Forests head office that on 23 October 1944 the Białowieża Forest had 17 bison. All the books and registers of breeding were lost in war operations, and more precisely during the Soviet occupation. The Germans never started any documentation. The veterinary surgeon Grzegorz Staśkiewicz from Lublin examined the animals' health. The bison, released from the enclosures in 1943 and given only small rations of hay, were in poor condition and had to be taken better care of.

In summer 1945 Jan Żabiński and Erna Mohr, both active as members of the International Society for Bison Protection before the war, met in Hamburg. They estimated the number of bison that had survived the war in spite of difficult times at 100–105.

They decided to start compiling new pedigree books. Jan Żabiński undertook the task and carried it on till his death. He was later assisted by Jan Raczyński from the Polish Academy of Sciences Mammals Research Unit at Białowieża. The first postwar volume was published in 1947.

On 5 July 1946 the Minister of Forestry signed an agreement with the representatives of the Belorussian SSR concerning Poland's gift of five bison out of the seventeen living in the Białowieża breeding centre. On 17 July two cows and three bulls mixed with the Caucasus variety of bison were transported to the Belorussian part of the Białowieża Forest. The official handing over of the bison on the next day was filmed by the Belorussians. The bison were installed in the former Królewski Most division. In 1964 all crossbreeds were removed and replaced with lowland bison. The Belorussian herd was finally formed in the early 1970s.

The fourteen bison (7 cows and 7 bulls) that remained on the Polish side were treated with great care, so their number grew, amounting to 21 in 1952. On 13 September the first two bulls from the closed breeding centre in Białowieża National Park were set free. The Forest regained one of its most precious animals. The experiment was conducted till 1956. Studies were made on the sex and age proportions of the successive groups of liberated bison, on the best timing, feed rations in winter, on their behaviour and health. The bison managed very well in the wild, therefore 28 more representatives of the pure Białowieża breed were set free in the next 15 years. They formed the present herd living in the wild.

The saved species enjoyed its privileges in full for a short time only. Soon voices were heard that there were too many bison and they should be put on the list of hunting game. In 1960 Józef Stadion-Ryszewski wrote in *Łowiec Polski*: 'I dream of a time, perhaps not very distant, when the Białowieża Huntsman takes up the historic horn from the Museum of the Polish Hunting Union

to announce to the world that the tradition of bison hunts in the Białowieża Forest has been revived.' I am ashamed to admit that similar voices are still heard today.

To prevent this kind of decision, at the 9th congress of the IUCN at Lucerne on 29 April 1966 the Group for Bison consisting of seven members was set up. Jan Żabiński was chosen as its head and the first meeting was held at Białowieża in April 1967.

Black clouds started to gather over the bison in June 1970. A text by K. Krysiak from the Ministry of Forestry and Wood Industry was published in the periodical *Save the Native Nature* to prepare the public opinion for what the ruling elite had in store. They decided to introduce a new category, i. e. overpopulation of bison, with all the resulting consequences. What those consequences were meant to be, was clearly stated in the article, entitled 'The existence of bison is being established': 'I warn, however, against excessive euphoria over hunting for hard currency. In the initial stage only particular, selected bison will be shot.' After that short indication of the consequences, the author proceeded with ideological slogans about environmental protection, the Poles as defenders of the lowland bison, disregarding profits, and the good fame Poland had won through centuries of efforts to protect the bison.

But his lofty verbosity was just a cover for the ready price list of 'gold and silver-medal bulls', which made the Ministry officials blind to the Nature Protection Act, stating clearly that no strictly protected species can be treated as hunting game for profit or sport. Not to mention the killing of the finest specimens, which only qualify for hunters' medals. But according to the imprecise Polish law it is allowed to obtain a protected animal for breeding – with an appropriate permit. Animals kept for breeding and their offspring are at the sole disposal of their owner, who can do whatever he wants with them. It was only a matter of changing the status of the Białowieża bison from 'wild' to 'bred in a breeding cen-

tre'. That did the job. Money was not even mentioned between gentlemen and the law was infringed without making any amendment to the Act. The bison became an unprecedented curiosity: strictly protected hunting game.

The tricky plan was gradually implemented in the early 1970s. The first cages with beetroot as bait appeared in the woods and meadows of the Białowieża Forest; the first fine bison were carried away to the Borecka Forest, doomed to death from the hands of hunters.

K. Krysiak voiced his opinion once more in 1975, on the 30th Anniversary of the Polish People's Republic. This time he was more careful in expressing his views on the fate of the bison in Poland and in the world. First, he recalled the violent reaction to the killing of a bison in the strict reserve a year earlier. It seemed to hint that the lesson given to the authorities by society was learned well, for the author noted: 'Such a wealth of feeling cannot be ignored'. But he did ignore it in the same article. Having listed Poland's merits in bison preservation, he returned to the heart of the matter: the herd at Białowieża exceeded its number limit of 230–250 individuals. 'Although it may not be accepted by a naturalist, the laws of economics are unrelentingly cruel. In order to live a bison must eat. Young forests, an inseparable element of modern forest management, are painfully depleted by bison. Therefore, the Animal Protection Commission of the State Council for Nature Protection in consultation with the Environmental Protection Department of the Ministry of Forestry was forced to relax the principle of bison inviolability.' I would gladly mention the names of the Commission members 'forced' to betray the ideals which the State Council for Nature Protection was supposed to guard.

Thus lawlessness was sanctioned. The 'new principles of policy on bison' (not new at all) included the export of the animals to various parts of the world and 'the possibility of shooting the selected individuals in breeding centres, which for sure will not be

eager to apply such ultimate measures.' This euphemistic language translated into permission to organize paid hunts for free-ranging bison in the wildest backwoods. The author was careful not to mention hard currency again. He did ensure, however, that the bison was 'still a protected species controlled by the environmental authorities'. Public opinion was lulled to sleep.

The catching of bison in cages and their transportation to the Borecka Forest intensified. There, they faced the guns of foreign hunters, who paid in foreign currency. The hunts were advertised in German hunting periodicals. More and more often bison were killed right in their natural habitat, the Białowieża Forest. It was not difficult to be selected for death: one walk to the fields or to neighbouring divisions in search of a new habitat, one straying from the crowded feeding racks in winter or a small helping from people's haystacks was enough to be punished with a bullet. The bison learned their lesson and they never settled the whole Polish part of the Białowieża Forest. Incidentally, in 1979 there were only 208 bison in the herd...

On 13 December 1981, General W. Jaruzelski imposed martial law in Poland. Between 1982–90 the number of bison taken away to other 'breeding centres' fell, but the incidence of controlled hunting in the Białowieża Forest grew.

In May 1990, a meeting was held in the State Forests education centre at Malinówka near Ełk, with a view to finding arguments and ways to deprive the bison of its legal protection, put it under control of the State Forests and include it on the list of game. Some conclusions were reached despite divergent opinions of scientists and more practically minded experts.

In 1992 the State Forests Management in Białystok applied to the superior authorities to reduce the number of bison in the Białowieża Forest, claiming that their population of 270 specimens, never before recorded in history, caused enormous damage. They proposed to limit the herd in the wild to 80–150 bison, which 'according to most experts' was an optimum required to

fulfil the needs of other herbivores living in the forest. These were mainly deer, then amounting to 3,000.

The world of science strongly rejected the idea of hunters reducing the bison and the issue was abandoned.

At the turn of the 21st century herd control is done quietly and discreetly. No trap cages are set in the fields and sporting hunters do not carry away bison carcasses any more. In 1995 zoologists worked out a computer simulation system for determining the size of the bison population which would guarantee the survival of the species and its genetic variability. It amounts to 300–480 bison in the whole Białowieża Forest (200–300 on the Polish and 130–150 on the Belarusian side). The fate of individual animals is decided by a commission of experts consisting of vets, zoologists and the national park staff. In the first place sick individuals are eliminated, especially males with symptoms of contagious infection of the urinary tract and reproduction organs, calves born late, and only then healthy bison are selected. They are shot by the competent forest service. The number and fine condition of bison of all ages encountered these days in the Forest shows that the species is no longer endangered.

Even on the biggest globe the famous Białowieża Forest takes no more space than the point of a pin. And this tiny point contains the only habitat of some 500 mammals of the species which was on the brink of extinction – the European bison. Various ideas come to people's minds; the past has seen many twists and turns. We must be conscious, though, that sometimes it takes a single blow to bring everything to an end. The epidemic of foot-and-mouth disease in 1953–1954 was a foretaste of what may happen any time. The fatal disease spread in two herds of bison: at Gorce and Pszczyna. None of the 38 bison living there have survived.

Bison living in the backwoods of the Białowieża Forest should never again be killed for sport of profit. As past experience shows, being on the game list turned out disastrous for many species of

birds and mammals. Hunting is governed by its own laws. A wealthy hunter would travel the whole world to get great trophies for his collection and pay extravagant prices for the emotions he can experience. As every other sphere of human activity, the hunting industry is prone to abuse. With a species as sparse as the bison, any irregularity of the number of shootings sold to hunters and any relaxation of discipline, whether motivated by ambition to hunt a record-breaking specimen or by handsome profit, pose the risk of herd decline and extermination. With the bison, our environmental emblem and our pride, we must not undertake such a risk.

Jacek Wysmułek, a man of noble qualities, wholeheartedly devoted to environmental protection, a forester and PTTK guide, died on 21 January 1983.

The latest history of the Białowieża Forest abounds in people worthy of entering into chronicles. There are scientists in the service of nature protection, foresters and hunters who thoroughly know and love the Forest and who have worked for it all of their life. There are successive national park directors and heroes of many funny anecdotes. But there are also villains. Some names will forever add splendour to the Forest history; others should be quickly forgotten.

Today, there are influential people who could do a lot for the Białowieża Forest but they do nothing; there are some who believe they already deserve a monument; there are also people who have really earned the respect and gratitude of generations to come. Their fair judgement belongs to the future. Let the archive, library and human memory browsers of the future, looking from the perspective of time, sort out the good from the bad.

Jacek Wysmułek was one of the persons connected with the Forest that you can easily forget. He held neither high positions in the forest administration nor scientific degrees. He left no great works. He was a simple forester, photographer and amateur painter. He was also a great storyteller and a guide favoured by tourists.

When the National Park director changed, Jacek was not invited to resume his job, for prestige reasons. They said in those times that the people's authorities were infallible. But he was not expelled from Białowieża, where he was employed at one of the forest inspectorates as forester for tourist affairs. He died on 21 January 1983 after a long illness. He left the beautiful tourist trail in the Forest, called Żebra Żubra (Bison Ribs), which meanders through the swamps along wooden footbridges, and the Royal Oaks Trail, passing some huge aged oaks named after the greatest Polish rulers by Jacek and his wife Barbara-Ewa. Not a single tree in the whole Białowieża Forest has been named after Jacek Wysmułek.

Forester Jacek Wysmułek

At the Threshold of the Third Millennium

Browsing through the publications on the recent history of the Białowieża Forest and its fauna we can see that many of them are far from telling the truth. In order to voice 'the only correct views' at the moment or back the interests of some lobby, the authors manipulate facts and wrap them in meaningless propaganda. Taken for granted and quoted by later authors, their statements soon become the binding truth, which confirms the view that historians create history. While popular essays, monographs and propaganda booklets must be treated with caution, the following outline of logging in the Białowieża Forest in the last decades of the second millennium is based on unquestionable sources, such as documents and scientific articles on forestry.

Here follows a glossary of the most important terms connected with forestry, used in describing the timber management in the Forest during the past fifty years.

Natural forest: a forest ecosystem formed spontaneously by the forces of nature, in which natural formations, though to a certain degree affected by man, function similarly to the primeval forest untouched by man's hand. Both the primeval and natural forests are beyond all the categories which apply to forests artificially planted and managed by man. For the ecosystem of primeval forest the 'technical value of wood' or 'average volume growth' are irrelevant. The 'age class' categories can describe a managed forest planted at the same time, but are absolutely useless in the case of the natural Białowieża Forest. The Forest is 6 to 8 thousand

years old, although some of its components are actually younger. Organisms of varying physiological length of life, from one day to many years, live here side by side. In every moment of its existence the Forest is young, mature and old. Even the term 'old-growth forest' does not describe the biological reality of the local woodland, but only a superficial impression of its viewer. At first glance we tend not to notice a thicket of young trees and seedlings surrounding a huge pine, a hollowed linden or a fallen 500-year-old oak covered by moss. The richness of living creatures in the Forest is also incomparable with their number in a managed forest, and none of those creatures is a weed, pest or pathogen. It includes about 990 species of vascular plants, 254 bryophytes, over 200 lichens, more than 1,000 fungi, as well as 11,000 animal species (8,500 species of insects, 206 of arachnids, 19 of centipedes, 99 of molluscs, 14 of leeches, 29 of oligochaetes, 19 of amphibians and reptiles, 228 of birds and 56 of mammals). Generations of millions of beings succeed one another invisibly in the whole Forest organism, like single cells in a human body. The length of life of individuals is of no significance. Some oaks can produce acorns for five centuries and other will die at a young age of a hundred years. One group of spruces will live till their senile age, while another may be eaten up by bark beetles. One deer will shed antlers till old age and another will be eaten as a fawn by a lynx. The change of proportions of particular plants and, as a result of succession, also of animals, is a natural phenomenon – the reaction of a complex ecosystem to changing climatic and other conditions. This state of dynamic equilibrium allows the natural forest to last for millennia.

Foresters make a fundamental mistake when they look at the primeval forest, a living relic of bygone times, in the categories of a managed forest, planted in rows and maintained in order to yield crop, i. e. high-quality timber. Viewed in these categories, to pragmatic forest users the primeval forest appears as disorderly, too dense, full of useless dead old trees, hollowed and covered

with bracket fungi, characterized by improper species composition and age of trees from the point of view of timber industry, rich in forest weeds and pests while lacking natural seedlings of such valuable timber-yielding species as pine.

Managed forest: a forest which is intensively used, maintained, regenerated and protected by man; where timber and other wood products are obtained but where also environmental and social goals are accomplished in various degrees.

Timber (production) forest: a forest which is grown chiefly in order to provide marketable timber.

Age classes of tree stands: adopted age spans, usually of 20 years, which serve to classify tree stands according to their age. Class I is the age from 0 to 20 years; II – from 21 to 40; III – from 41 to 60; IV – from 61 to 80; V – from 81 to 100; VI – from 101 to 120; VII – from 121 to 140; VIII – more than 140 years.

Culture: the cultivation of trees from their planting till they establish a canopy in a stand.

Young stand: the phase of tree growing from the crown closure till the beginning of the process of dying out of some trees in dense stands as well as the lower branches.

Thicket: a young stand of up to 30 years, ending the young growth, when trees reach a height of 5 m.

Pole timber wood: the phase of maturing stand, in which the clearing process ceases and trees reach the size suitable for harvesting mine timber and telegraph poles.

Old-growth forest: a tree stand aged 100 to 300 years with an average trunk diameter measured at a height of 1.3 m above the ground of more than 50 cm. In terms of forest management it is a stand over the felling age (superannuated forest).

Forest management: a field of applied forestry dealing with the control of forest resources and the working out of 10-year plans of forest utilization and breeding.

Forest utilization: a branch of forest economy dealing with the harvesting of various forest crops, mainly of timber.

Stand volume: the total volume (in cubic metres) of trees in a tree stand or in a control unit, as well as in the whole forest. For instance, in 1991 in the Białowieża Forest the stand volume in the managed part was 264 m^3 per hectare (for comparison: in the former Białystok Province it averaged 204 m^3 and in the Białowieża National Park strict reserve 400–500 m^3 per hectare).

Volume growth (annual, periodical): the increase in volume of a tree or stand in a specified period of time.

Prescribed cut: a norm of crop to be harvested in the process of forest utilization, usually expressed as the average amount per 1 ha and 1 year.

Felling age: the age of a tree stand when it is ready for clear, selective or group felling.

Intermediate cutting: wood harvesting from improvement cutting (weed cutting or thinning) and sanitation cutting (removal of diseased or pest-infected trees), usually comprising all tree stands or their parts, where felling is not planned in a given economic season, i. e. a 10-year forest management cycle.

Felling: wood harvesting from tree stands qualified for clear cutting, which brings about the need of forest regeneration.

Group felling: the cutting of mature forest (and replanting it) on irregular patches, which are widened and then connected into strips. The aim is to grow a dense young forest with a variety of species and differentiated age and height structure.

Clear cutting: the cutting of all trees in a given area, irrespective of their age and species. Clear cutting may cover the whole logged area, belts, strips or groups.

Weed cutting (early or late): improvement cutting in order to control the species and density of trees in the phases of culture and young stand, in which unnecessary or 'weed' trees are removed.

Thinning: improvement cuttings in mature tree stands; a reduction of the number of trees in a given area by removing selected specimens and species.

Early thinning: improvement cuttings made in the phase of tree growth in order to save shapely and useful trees and remove unnecessary or harmful ones.

Late thinning: a selection of shapely maturing trees in order to increase the volume growth of a timber stand and to prepare this stand for felling.

Overstaying tree: a tree which was not felled in due time, according to the felling rotation planned for a given stand or species.

Timber assortment: marketable timber of the same species, shape, size and destination.

Bole: a medium or large-sized trunk over 6.3 m long.

Large timber: roundwood of minimum 7 cm in diameter at the narrower end, always obtained from mature or old trees.

Regeneration: an artificial or natural replacement of a new generation of trees for the timber which was felled or destroyed by natural disasters. In Poland it is a basic duty of foresters to replant clearings.

Framing: the spacing of seedlings or seeds in a forest culture area and intervals between them.

Self-sowing: the growth of a new generation of trees from seeds that fell down to the soil from mature trees – often seed-bearing trees deliberately left for several years in a clearing.

Restocking: the planting of seedlings of specific species in natural or artificial regeneration.

Corrections: the planting of new seedlings or sowing seed in forest cultures in places where seedlings have not germinated, are weak or dead; usually made in the fifth year of the culture.

Game damage: the eating, treading, ploughing, breaking etc. of trees and other forest plantations by herbivorous animals.

Biting: the eating of buds, leaves and shoots of young trees and bushes by herbivores.

Tapping: the tearing off and eating of young tree bark by herbivores.

1950 (The rasp of saws on wood; the Białowieża Forest tracks are filled with horse-drawn carts and tractors for hauling boles and other assortments of timber).

The inventory made on the Polish side of the Forest showed a stand volume of only 189 m^3 per 1 ha, while an optimal stand volume should amount to about 400–500 m^3. It consisted of 31% spruce, 18% pine, 16% alder, 12% oak, 8% birch, 7% hornbeam, 6% ash and 2% aspen. The prescribed cut was settled at about 2.8 m^3 per 1 ha. Ninety-five and a half per cent of it was obtained.

From 1949 in all sites, group felling was applied, with felled areas up to 0.75 acres, and in vast areas cluster felling of individual trees or groups, useful for harvesting valuable assortments of timber.

After 1952 cluster felling was replaced by group felling of areas up to 1.25 acres. Self-sowing was counted on and some failed attempts at planting seed and seedlings in loose framing on hand-

'The Primeval Forest' by A. Grottger

cultivated soil were made. That regeneration gave unsatisfactory results, especially on too extensive sites; 90% of the planted surfaces had to be restocked many times and often planted anew.

1956 (The rasp of saws on wood...)

Between 1952–1955 group felling left over 10,000 sites. In 1956 clear cutting of 60 to 80-metre strips was applied again, but all other methods of felling were used as well. In the years 1951–1956 the percentage of large timber in old-growth forests changed to the disadvantage of pine, oak, ash and alder and in favour of hornbeam and spruce. The prescribed cut rose from the planned 2.8 to about 4.6 m^3 per 1 ha, which further depleted the low stand volume (189 m^3 per 1 ha). Age classes III and IV of tree stands, together covering 11% of the forest area, were represented mainly by light-seeded deciduous trees. During the inventory in 1953–54 the oldest specimens of trees were not excluded from cutting, so they were felled. The real average annual volume growth in class II and higher fell below 2.8 m^3 per 1 ha. The regeneration was 50–70% unsuccessful. Forest protection underwent difficult times after the number of forest rangers was reduced in 1952–53, because of poorly qualified staff and for other reasons.

1957 (The rasp of saws on wood...)

The actual quantity of felled timber reached 156% of the planned amount. A meeting of the District People's Council at Hajnówka was held. Especially important for environmental protection, it dealt with the natural resources economy in the Białowieża Forest, the area of which covered 97% of state forests and 89% of all forests in the district. The council members at Hajnówka showed a full understanding of the Forest's value and admitted that it should not be overexploited.

The current state of the forest economy was outlined by the director of the State Forests Region at Białowieża, Leoniak. He

pointed out that all the norms of timber felling were exceeded with the crop amounting to 141% of the prescribed cut. The excessive felling was all the more harmful that it included the most valuable trees, such as oak, ash and alder to obtain the highest-prized timber. The councillors were against such excessive exploitation of old-growth forests and they demanded that those timber assortments which were in danger of complete exhaustion in the coming years should be immediately excluded from felling. They also insisted upon a considerable reduction of total timber harvesting. The councillors Romańczuk, Gromadzki and Samociuk as well as Szpakowicz – the president of the Communal People's Council at Białowieża, and the district commanding officer of the police (MO) expressed their highest concern about the preservation of the Białowieża Forest as a national treasure. In simple but convincing words they told people to respect the forest and called for taking good care of the Białowieża Forest for its unique scientific value.

A resolution demanding a decrease in timber harvesting and the introduction of limits in cutting timber assortments that were running low was passed unanimously. The resolutions of the District People's Council at Hajnówka were in accordance with the proposals concerning forest economy put forward at the meeting of the State Council for Nature Protection in November 1956.

1958 (The rasp of hand saws and the throbbing of mechanical saws...)

In the preceding years more and more articles and notices in the press expressed concern about the fate of the Białowieża Forest because of overintensive felling of tree stands. In answer to that, the Committee of Forestry of the Polish Academy of Sciences Agricultural Department organized a scientific meeting on the regeneration of the Białowieża Forest. It was attended by representatives of forestry, local authorities, party leaders

and state forest administration. They voted a number of conclusions:

– The present unsatisfactory state of the Forest brings about the need for regeneration;

– Therefore, the Białowieża Forest territory shall be excluded from the State Forests Management in Białystok and a special administration unit shall be established: the Białowieża Forest Management, subordinated to the Minister of Forestry and Wood Industry;

– In order to ensure fair progress of work on the regeneration of the Białowieża Forest it is necessary to enlarge the research station of the Forestry Research Institute by adding pedological, forest management and forest protection laboratories;

– The National Park shall comprise the other halves of the Narewka and Hwoźna Rivers flowing along the Park and an adequate protection zone shall be demarcated.

The participants of the meeting were fully convinced that their debate would initiate a new stage in the history of the Forest.

The removal of a 500-year-old oak;

A careless and shortsighted policy of improper overexploitation, which altered and destroyed the natural structure of tree stands, ought to be replaced by rational forest management based on scientific findings. This would secure the existence of the Białowieża Forest as a place of special value for the nation's culture and economy. Poland's important contribution to European culture would be the preservation of the last primeval forest of Central Europe for future generations. (None of the unanimously adopted resolutions has ever been implemented).

An initiative was launched to work out the Statute of the Białowieża Forest, a legal act to be issued by the supreme state authority. It would express society's care about the unique national treasure and the protection of precious monuments of nature. On the other hand, it would enable society to control the Forest's fate. (To approve the Statute – in a vestigial form – took the authorities as long as 17 years).

1961 (The throbbing of saws...)

The issued Principles of Breeding allowed for clear cutting of the richest habitats as well. The cuttings are usually localized in disagreement with crop planning.

1968 (The throbbing of saws...)

On the 5th and 6th of April a conference on the Białowieża Forest management was held, with the participation of 45 experts of forestry and scientists from all over the country. As the attempts to replant forest on hundreds of hectares of clearings had not been successful, the assembly needed to find a scapegoat to blame. And so they did. S. Wroczyński in his speech, which was copied and handed out, pointed at the reason for all foresters' troubles suffered during the past decade: the damage made to the Forest by an excessive number of bison in the wild.

On the next day the conference participants walked to the forest under the guidance of W. Sosnowski, the vice-director of the

State Forests Regional Management. There they saw terrible damage in forest cultures and young forests done by animals and they attributed them mostly to bison. The inspecting assembly had no doubts about it, although the population of deer living in the forest was many times larger than that of the bison and deer were very fond of shoots and bark of young trees. The bison, which ate mainly the supplied hay in winter and grazed on meadows in summer, picking up young willows and hornbeams overgrowing the failed pine and oak cultures, were held responsible for the damages in the whole forest and the twenty-year unsuccessful effort of the local foresters to regenerate the clearings.

What it could mean was understood by the director of the Nature Protection Board, Tadeusz Szczęsny. He had the courage to say at the conference: 'We boast our bison breeding abroad. The Białowieża Forest as a unique woodland is associated mainly with the bison, whose citizenship in this area must be maintained. It is impossible to carry on the timber-oriented forest economy and bison breeding at the same time.' Supported by a small group of scientists, he suggested that the whole Białowieża Forest should be qualified as woodlands of the 1st, non-production category, following the example of the Soviet economy, where the interests of the bison were fully respected in the Belorussian part of the Białowieża Forest. But deer, as constituting a part of the excessive game, were not mentioned in his speech either... or it was censored from the text of the minutes.

The official conclusions of the conference, adorned with propaganda statements on respecting the unique values of the Białowieża Forest, were entitled 'The securing of sufficient productivity of habitats and tree stands in order to maintain a high output of timber'. The production of high-quality large timber obtained in a long production cycle was adopted as the basic principle of forest economy. But the achievement of such a bright future for the Forest as a factory of mine timber and telegraph poles was hampered by 'the excessive multiplying of game and the

The coniferous forest before tree felling

A raven on a battlefield

great number of bison living in the wild in conditions utterly different from the primeval ones'. The conclusions that followed concerned the long-range plan to reduce the deer population and the settling of an upper limit on the number of bison in the wild by the Environmental Protection authorities together with the State Forests Regional Management at Białystok. The real meaning of the latter statement was that the problem of the bison would cease to exist when the animals were no longer protected and if they started to bring profit, just like deer – in hard currency.

In the years 1958–1968 the amount of tree stands aged more than 100 years fell from 37.2% to only 34.3% of the forest area. Oak is characteristic almost exclusively for older age classes, while aspen and birch occupy the largest areas at the age of 21 to 60. These species covered 43% of the area of class II and III of tree stands and constituted 36.3% of the stand value. During the decade the total regenerated area reached 4,427 ha, but 40% of the cultures were lost. All the costs of afforestation, corrections and restocking were meticulously counted. They amounted to large sums. However, no list of profits mercilessly derived from the Forest was available, whomsoever they made rich.

The intention was clear: the green-uniformed forest service was obliged to harvest the valuable wood for the socialist economy as long as they could, i. e. till the end. Till the primeval forest turned into a one-species, one-age-class model managed forest, prone to diseases, pests and fires and never getting old. Nobody cared how the future generation of Poles would deal with such a 'primeval forest'. Another fragment of the minutes from the infamous April conference of foresters said: 'A great divergence between the species composition of cultures and young forests in richer habitats and the species composition suitable for a managed forest was observed'.

For thousands of years rich and fertile soil bore fresh, mixed or mixed coniferous forest, characterized by a vast richness of

plant species. In the whole of Europe such forests were cleared and replaced with farmland. In a managed forest the percentage of particular tree species must be strictly adapted to the needs of wood production. Timber must grow quickly and sell well. In those years they had a mania for planting nothing but pine. The wounded Forest, scalped of its natural vegetation, heroically defended itself against the production-minded forest managers and tried to regenerate its biological variety. It sowed aromatic herbs and grasses as well as light-seeded trees and bushes on artificially replanted clearings. Called 'weeds of forest cultures', they choked the nurseries and their frail pine seedlings. The Forest just wanted to fertilize its soil with short-living, quickly rotting trees so that the long-living, ecologically valuable giants such as oaks, lindens and ashes had better conditions for growth. Thus, a considerable workforce and technical equipment was directed to fight against the natural forest. The effects are visible now: young pine or spruce monoliths of the same age, attacked by pests, set on fire by a single spark and broken over dozens of hectares by a mere snow cap in winter or a slightly stronger gale.

1975 (The throbbing of saws. Ever bigger and better machines for hauling logs crush through the Forest)

At last, on 30 January the Minister of Forestry and Wood Industry signed the Statute of the Białowieża Forest, prepared by the State Forests officials in successive versions and supported by a group of forester-scientists, with one specialist on the Białowieża Forest in particular. The document was also given the blessing of the State Forests Head Office, the First Secretary of the Provincial Committee of the Polish United Workers' Party and the President of the Provincial People's Council in Białystok. The Statue was given a meaningful title: 'The basic principles of forest management in the Białowieża Forest territory'. According to those principles, high-quality timber production was the basic function of the Forest. Production in this case meant the cutting

of the remains that had grown on their own and managed to survive till 1975.

To 'protect' old forest, the Statute modified the age of maturity for felling and regeneration of the main forest-forming species: of pine from 120 to 120–140 years (while the local pine could attain the age of 500 years); of spruce from 80–120 to 120 (spruce can live up to 300 years); of oak from 200–260 to 160–240 (oaks live up to 600 years); of ash from 120–140 to 140–180 (ashes live more than 200 years). A hornbeam growing in an old stand had no right to live longer than 100–120 years, a birch – no longer than 80, an alder – 80 to 100 and an aspen – 50 years. Any tree older than that was classified as overstaying, intolerable in the managed Białowieża Forest. The Statute secured the supplies of the most valuable timber for the wood industry and an early death for the forest trees.

To give solace to naturalists, some age-old trees were found, measured and registered in a special book. Decorated with tablets bearing the state emblem, they became living monuments of nature. Living but for a short time. They soon began to die of old age one by one, like the famous Jagiełło's oak, leaving no successors. If there were any left, they were thriftily cut in accordance with the Statute as superannuated trees. Also their grandsons and great-grandsons were soon to enter the shadowlands when they reached the felling age specified by the Statute.

In 1975–79 in accordance with the Statute another 815,000 m^3 of large timber was felled. Between 1969–78 4,380 ha of old-growth stands were eliminated from the Forest. The clearings were ploughed with heavy machines, which destroyed the undergrowth, and rows of a couple of inches high pines were planted.

On almost 8,000 ha of tree stands known as 'post-Century' forests, though some of them were the achievement of the Second Republic of Poland, thinning was carried out. Its reasonable purpose was to remove mature but undesirable self-sown species, such as birch, hornbeam and aspen in order to enhance the

growth of oaks, ashes, maples, lindens and in some habitats also pines, which would reconstruct the correct species composition.

This is what happened during the decade 1969–79:

The species which should be treated as sacred and left to sow seeds in the forest, namely oak (covering 1.34% of the whole area), ash (0.22%), linden (only 0.06% and becoming a rarity) and single specimens of maple were cut within the thinning program by 285%: instead of the planned 2,373 m^3 of wood, 6,774 m^3 (and according to other sources 11,783 m^3) was harvested, mostly oak, hornbeam, linden and maple. On the other hand, alder, which covered more than 15% of the area, was thinned by only 66%, and birch by 89%. What we can see today are birch and aspen forests, so readily ascribed to Century's activity. It is as if the Białowieża Forest was not able to heal its wounds on its own in 70 years: to sow thousands of oaks and lindens with the help of animals, to send out the winged seeds of maple, sycamore, ash and pine with the wind. As if it could only sow birch, aspen, hornbeam and spruce.

Not only were the precious forest-forming species destroyed, but also the thinning caused such a spectacular decline in forest density that to intensify wood production it was suggested they had to be cut clear no matter what species composition and the clearings should be artificially regenerated with desirable species.

1979 (The throbbing of saws...)

The Forest stands totalled less than 65% of the potential stand volume. The area of tree stands older than a hundred years decreased from 38.2% in 1949 to 29.8 %. Tree stands of middle age classes were characterized by the highest growth rate but incorrect species composition. An optimal stand volume in older age classes should amount to about 500 m^3 per 1 ha, while in fact it was only 264 m^3.

The total output of large timber in 1975–1980 was 1,166,000 m^3. The little pines planted on clearings were only 5 years old. In

accordance with the Statute, in five years the same amount of wood was taken out of the Forest as in the whole decade of 1958–68.

As regards the control of game number and quality, outstanding success was also achieved and all records of absurdity were beaten. In the only natural habitat of the European bison, saved from extinction, the breeding of deer and wild boar was adopted for the coming decade as the main line of activity. For the two species, common in Poland and Europe, 149 new breeding racks were built and filled with tons of feed, so that in winter the mixed lot of deer brought from the whole of Europe late in the 19th century would not suffer from hunger and does would multiply well in spring, only to eat in summer cultures and young stands planted in place of the felled natural forest. After all, the only goal in mind was to enable some privileged man to sit in one of 924 raised stands and shoot his trophy without wasting time on waiting for the game.

To eliminate competition for food, the herd of bison was to be reduced from 208 to about 150 individuals, elks to only 20. Roe deer was to be 'limited to a minimum because of the damage it caused to tree stands and its poor quality', or practically exterminated. It was another propagated myth that apart from the bison it was the tiny, herbivorous roe deer that was responsible for the deteriorating condition of the once rich floristic ecosystems of the Białowieża Forest and not the huge deer which thrived on tree shoots and bark. Such a thesis gives palpitations to every zoologist who knows something about the nutrition of wild herbivores.

(It was not until the mid-1990s that hunters accepted the ecological approach to the requirement of maintaining biodiversity in the Białowieża Forest and all species of game and protected mammals were granted equal rights to live. The number and limits of animal populations are scientifically determined at the Natural Forest Department of the Forestry Research Institute at Białowieża. The number of deer was reduced from 3,000 to

1,500, scarce elks were left alone to multiply and roe deer ceased to be a regular goal of hunters. They constitute basic food for a number of predators, first of all the protected lynx. About 250–280 bison roam the Forest. As it should be expected, game damage decreased so greatly that it no longer bothers foresters.)

1980 (The throbbing of saws...)

Forest management in the decade of 1979–1989 was developing its full potential. The Technical and Economic Commission ordered to make an inventory of stand volumes and work out forest utilization and breeding plans, including all nature reserves covering a total area of 1,394 ha. (It was a far-sighted decision, for within a dozen or so years high-quality timber would only be left in the reserves). The Commission also proposed to increase the amount of food available to animals by arranging special meadows and fields and supplying feed in winter.

In line with recent trends and because of the insufficient number of forest workers, forest work was increasingly mechanized. This allowed for the thinning of 2,622 ha in tree stands of classes III, IV and older, and the harvesting of 52,208 m^3 of wood in the Forest. The Białowieża Forest Division was a leader: 56 m^3 of wood were cut from every hectare of IV-class and older forests (that is natural forests of environmental and cultural value, impossible to be regenerated within the life-span of several generations of Poles). Trees to be cut were of course chosen in accordance with the Statute: healthy maturing oaks at least 160 years old, 120-year-old pines and spruces and 140-year-old ashes. Clear cutting and group felling was also applied and the clearings were quickly replanted. Then the unsuccessful cultures were corrected, restocked or planted anew many times. As usual, the bison and roe deer were blamed for all the damage. Balance sheets of costs were made. The profits from the sold timber as well as the złotys and dollars earned from deer and wild boar hunting were wasted by the centralized socialist economy.

The official total crop of unbarked large timber from felling and intermediate cutting in the years 1979–89 was 1,283,461 m^3. In fact 2,018,156 m^3 of wood was obtained, mainly from intermediate cutting of single trees and groups of them by old-growth stands not yet planned to be felled. In that decade intermediate cutting was realized by 223% of the planned amount. The annual crop was 4.63 m^3 per 1 ha. Record crops were harvested in 1983, when the extensive plan of intermediate cutting was realized by 313%, and in 1986 – 320%. It was mainly obtained by random cutting and, as it was explained, owing to such disasters as excessive snowfall, dangerous for young pine woods, and gales – a threat to old spruces.

At the same time the tourists' access into the Białowieża Forest depths was limited. It was motivated by the necessity to ensure

The throbbing of saws...

quiet to animals, to protect experimental areas and nature reserves. But the true reason was the need to conceal from the nation what had been done to the primeval forest behind the strip of dense old tree stands left in the W. Szafer landscape reserve along the road from Hajnówka to Białowieża.

The 1990s

On 16 September 1991 the Council of Ministers (Cabinet) of the young Republic of Belarus, struggling with economic crisis, decided to establish the Belovezhskaya Pushcha (Belovezh Forest) National Park, covering a vast area of 87,363 ha. Together with the earlier existing Berezina and Polesian strict reserves, it is controlled directly by the Cabinet Office. The aim is to protect the unique monument of nature, which the Białowieża-Belovezh Forest is for the whole of Europe. It should be noted that felling-age stands occupy only 2.8% of the Belarus area, and forests in general – 36%.

The youngest tree stands (age class I and II) cover a mere 12% of the Belarusian national park area, tree stands aged 100–140 years – 25% and older – 32.5%, or 27,268 ha! Thus the average age of the forest is about 100 years.

The Park was divided into four zones. The first zone is a strict reserve and covers 15,700 ha, or 18% of the Belarusian part of the Forest. No activities other than scientific research are allowed here. The second zone, called 'environmental' (57,000 ha, 65% of the Park) is devoted to comprehensive studies of forest nature. In this territory it is allowed to organize fire prevention, fight against forest pests and diseases, make improvement cutting and sanitation thinning, feed animals, hunt and fish and do some works connected with the Park maintenance. The third zone of 'controlled recreation' has 10,712 ha (12% of the Forest). It serves for recreation and education of the wider public in the natural environment of the Park. The activities here are aimed at the maintenance of landscapes, waterways, plant and animal life. The

last, 'economic' zone occupies 3,900 ha (4.5% of the Forest). It serves for organizing the tourist base, administration, recreation and economy of the Forest. Here the local inhabitants can live and run businesses which do not collide with the aims and tasks of the National Park.

The Republic of Belarus has made an appeal to UNESCO to grant the Belovezh Forest National Park the status of a world biosphere reserve.

Environmental protection is costly. In 1994 alone the Belorusians spent 2,855,000,000 rubles on the Park maintenance (e. g. forest service, fire prevention, the repair of roads, telephone lines and watch towers). 44% of that sum was obtained from the state budget, while the rest was from the income from the Park's business activities.

On the Polish side of the border, marked with a tall, barbed-wire fence and a wide strip of ploughed land, saws go on throbbing. The Forest is ravaged by modern machinery for hauling timber...

The system has changed; the economy is being privatized. Governments and parliaments rise and fall. The Statute of the Białowieża Forest has been replaced by the Puszcza Białowieska Promotion Forest Complex, then supplemented with the Contract for the Forest. The Age of Aquarius is near. The ecological awareness of Poles is growing. The struggle to save the remnants of natural forests, fine oaks, ashes, pines, spruces, lindens and partial reserves is beginning. Give the Polish part of the Białowieża Forest its last chance to regain its beauty and majesty...

In 1990 the youngest tree stands, below 100 years, covered 70% of the managed forest, while those aged 100–140 years only 13% and older- 17%, i.e. 9,123 ha. 104,686 m^3 of timber was obtained in that year from felling and intermediate cutting.

In 1991 another 113,181 m^3 of timber was carried away from the managed forest, the average age of which dropped down to 72 years. In the former Białystok Province it was 53 years and in the strict reserve – 126.

In spite of such considerable rejuvenation of the managed forest, in the years 1994–1995 100% of the planned amount of timber was harvested, i.e. 146,000 m^3 of wood from felling and intermediate cutting and the same quantity from sanitation cutting. All at the cost of old-growth forests.

In 1994 the most prestigious Polish non-governmental ecological organization, the Workshop for All Creatures, began a wide-scale, consistent and sometimes even spectacular campaign for the protection of the Białowieża Forest. Thanks to it the word 'Białowieża' for the first time in history appeared in the most prestigious newspapers. As a result, a strong countrywide and international movement backing up the efforts to save the Białowieża Forest treasures was formed.

The sawmill at Hajnówka

In the meantime, in the Forest matters were running their course. The saws went on throbbing...

On 1 August 1995 the managed forest territory comprised 23 nature reserves of a total area 10,464 ha. But at that time, forest inspectorates did not have any plans for reserve protection required by the Nature Protection Act, or the existing plans lost their validity, or some serious reservations were expressed about them. So it was decided that for a few years the reserves would be managed on the basis of periodical consultations with the Provincial Nature Conservator and the State Forests Regional Management in Białystok. Obviously it was impossible to manage them without a saw.

In 1997, according to phytosociologists, only a little more than 4,000 ha of tree stands were characterized by a high degree of naturalness. The annual timber crop was planned as 119,000 m^3, or 2.73 m^3 per 1 ha of the total Forest area.

Someone may think it was only 2.73 m^3 per 1 ha. But we must realize these were not just any trees. They were selected good trees at the felling age or close to it. Such trees are in demand and can be sold well. But they only occur in old-growth forests, which have been systematically depleted. Today vast areas of the former primeval forest are occupied by new cultures, young stands and pole timber woods. The greatly thinned old-growth forests over 120 years old cover only 25% of the managed forest area. The next crop will be available 100 years from now. That is why the timber cut every year in every little patch of natural forests, including those that until quite recently used to be protected, is not mentioned by publications directed to the wider reading public. No figures are cited as regards the planned and harvested amounts of wood of particular species and they are not compared with the number of mature trees still left in natural forests.

Under pressure from public opinion, on 6 June 1998 the director general of the State Forests signed an order to stop the felling of old tree stands and individual trees of 100 years or more.

In August, Deputy Prime Minister Balcerowicz appropriated the first 20 million złotys to cover the cost of the extension of the Białowieża National Park and ecological expenditure planned by the local communal authorities. The money, paid as part of the programme named the Contract for the Forest, was readily accepted. The Minister of Environmental Protection, Professor J. Szyszko, publicly declared his intention to protect the whole Polish part of the Białowieża Forest as a national park. The earliest date considered was the year 2000.

In the spring of 2000 the newly appointed Minister of Environment, A. Tokarczuk, standing at the top of the stairs of the historic manor house, once visited by kings and presidents, announced to the crowd of people, mainly from Hajnówka, his decision on the imminent establishment of the park and the government subsidies for the development of the Forest communes.

Oak skidding in the Białowieża Forest

But the locals turned out to be well prepared for the occasion. They greeted the distinguished guests – the minister, the accompanying officials and journalists – by throwing eggs at them. To hell with the wish of Polish and international society! To hell with the future generations of the Białowieża Forest! To hell with nature! The only thing that counts is the interest of local sawmill and wood factory owners. Such private enterprises surround the Białowieża Forest with an ever denser ring.

Liberum veto! I forbid! A survey conducted by *Gazeta Wyborcza* and unlawfully called a referendum showed clearly that a local community of several thousand people, which constitutes a small fraction of one percent of the whole population in Poland, WERE BLOCKING the legal protection of the whole Polish part of the Białowieża Forest, the most valuable European lowland forest, which could stop its deterioration.

The Power of Arguments

The Białowieża Forest today

The 16th century

Wherever I glance, they fell trees:
beech for the smiths, pine for tar
or oak for ships...

Jan Kochanowski, a poet

The 20th century

As soon as man appeared on this earth, he set out to 'tame' nature. At last he tamed it so completely that his hair stand on end from horror that he may remain alone in an empty space facing death.

Jan Gwalbert Pawlikowski, a literary critic and
pioneer of environmental protection

To fight for nature is to avoid the damnation of man.

Robert Hainard, a painter.

1992

Dear Sir,

We, the undersigned representatives of the researchers from Białowieża, wish to express our great concern about the fate of the national sanctuary of nature, the Białowieża Forest.

... We witness tree felling on an unprecedented scale. New clearings are made and old ones are widened, heavy skidding tractors are used to a maximum, forest roads are damaged... The selection of some species of very old trees for felling is especially dangerous, as these trees often qualify as monuments of nature... The continuation of such activity will inevitably lead to a complete loss of the Białowieża Forest's unique character... We consider the direct intervention of the Minister of Environmental Protection, Natural Resources and Forestry as necessary to guarantee the Forest's survival...

It is our hope that you as the Minister will do everything to save the great natural heritage of Poland.

20 signatures of researchers from Białowieża

To me the extension of Białowieża National Park seems a natural consequence of its original goal. The Park was from the beginning meant to constantly develop and increase its area, once limited as a result of a compromise...

The sooner the Forest is incorporated in the Park, the less it loses. It should be considered the ultimate goal of environmental protection in the Białowieża Forest to preserve effectively and permanently all forms of forest variability, its landscape, environments, ecosystems, biocenoses and their components as well as biological and ecological processes which determine the continuity of forest in time and space and the permanence of all forms of existence...

... It should be most appropriate to extend the national park protection on the whole Polish part of the Białowieża Forest, as it was done in September 1991 in the eastern, Belorusian part of this forest complex.

Professor Janusz B. Faliński,
Chairman of the Scientific Council of Białowieża National Park,
Białowieża Geobotanical Station of Warsaw University

Monumental oaks in the Palace Park at Białowieża

1994

We respect and admire many activities of the State Forests aimed at the ecologization of forestry. However, it only makes sense for the managed timber forest economy. Apart from timber plantations, even though most ecological, we need just forest. Here in Białowieża we are facing a conflict not so much between people as between two different concepts of the Białowieża Forest's future... The felling of old-growth forests must be stopped now. The whole territory of the Forest should become a national park.

The Workshop for All Creatures

The Council is of the opinion that:

– It is necessary to declare immediately a moratorium on the felling of old-growth forests and singular old trees in order to stop the Forest's deterioration.

– It is necessary to extend Białowieża National Park to cover the whole territory of the Polish part of the Forest, as in the long run only this can ensure the effective protection of this forest complex.

Professor Stefan Kozłowski,
Chairman of the Ecological Council
of the President of the Republic of Poland

Until recently there were still chances to restore the forest in the managed part of the Białowieża Forest, which was utilized during the First World War and the period between the two world wars... Unfortunately, this opportunity has been wasted. A major part of these stands has been felled to save the timber: birches and aspens. Simultaneously, the equipment used and methods of work caused the complete damage of all that grew under these birches and aspens and which could form a new forest.

Professor Janusz B. Faliński

You cannot believe that the same people who destroyed the natural environment of the forest would restore the deteriorated sections of this environment, especially that they are now under an even stronger economic pressure than in the past. You cannot expect any good from a document, which decides in advance that only 20% of the area of partial reserves will be free from tree felling...

... The League for Nature Protection turns to the Council of Ministers and the Minister of Environmental Protection with an appeal to extend the protection of the whole Białowieża Forest within a national park.

Main Board of the League for Nature Protection

It is obvious that the Białowieża reserve cannot exist without the primeval forest. What is more, the whole of the Białowieża Forest, as the highest good of the country, Europe and the world, should become a reserve.

Professor Mieczysław Górny,
a forester, propagator of ecological farming and philosophy

Peach-leaved bellflower

1995

It is high time to stop the wasting of unique and irreparable values. The Forest cannot continue to be an economic enterprise. It should remain as a home to thousands of animal, plant and mushroom species, a temple of nature, where natural ecological and evolutionary processes can go on undisrupted by man, a place where nature can be studied and where we gain experience in how to protect it.

The present extent of the Białowieża Forest protection is not large enough. It does not ensure safe life conditions to its inhabitants and does not allow for the full use of its cultural values. This raises the justified anxiety of public opinion, ever more sensitive to the fate of the environment and appreciative of its natural values. The only effective way to preserve these values of the Białowieża Forest is to turn it into a national park.

Professor Romuald Olaczek,
President of the State Council for Nature Protection

We demand that a moratorium on the felling of all primeval tree stands and old trees is introduced immediately in the whole of the Białowieża Forest.

Scientific Council of Białowieża National Forest

The Committee upholds its standpoint of October 1994 and its postulates:

1. To cover the whole Polish part of Białowieża National Forest with the protection of a national park.

2. To stop immediately the exploitation of the last fragments of old growth forests and the felling of fine specimens of old trees in the whole Polish part of the Forest.

A forest landscape with a doe

In this matter the Committee for Environmental Protection fully supports the more detailed standpoint of the Scientific Council of Białowieża National Forest.

Professor Ludwik Tomiałojć,
Chairman of the Committee for Environmental
Protection of the Polish Academy of Sciences

The Białowieża Forest is one of the main production bases for the export of Polish high-quality timber. This explains the negative attitude of the local inhabitants towards any attempt at a more rigorous protection of the Forest.

The sole interests of professional groups connected with the wood industry and some research centres related to this industry... are a good pretext for misinformation and propaganda against the indispensable expansion of legally protected areas of particular environmental value...

We are not convinced by the new ideas of foresters to turn the Forest into the so-called Promotion Forest Complex, even with the proposed control of the Forest users...

The Polish Ecological Club considers it utterly important and urgent to grant the status of a national park to the whole Polish part of the Białowieża Forest.

National Park Section
of the Polish Ecological Club

1996

The fundamental aim of the Promotion Forest Complex (established by the director general of the State Forests on

19 December 1994) is to put into practice the control of forest economy with the full recognition of the condition and environmental protection requirements of a compact forest area...

The Promotion Forest Complexes have their individual programmes, which may differ in forest function priorities. In each case, however, the prior tasks must agree with the needs of environmental protection. In extreme cases it may become the top priority, like in the Białowieża Forest. Then the function of the Promotion Forest Complex becomes very close to that of a national park.

Professor Andrzej Szujecki,
a junior minister at the Ministry of Environmental
Protection, Natural Resources and Forestry

When will the whole Białowieża Forest finally become a national park? I use my pen in the hope that amid the fierce struggles of politicians, who have neither the time nor energy for things that last longer than their term of office there will still be some place for the matter which constitutes the common benefit for many generations.

Czesław Miłosz, a poet and writer, Nobel Prize winner

The last battle of people against the primeval forest is taking place in the Białowieża Forest. At the end of the 20th century, the age of atom control and cloning, people are unable to save their priceless treasure, famous in the world.

The facts are ominous. The exploited areas, which constitute a major part of the Forest, are already devoid of large,

healthy timber. This threatens the last remnants of old-growth forests in the reserves with the same kind of 'rejuvenation'. We should bear in mind that the Forest flourished for thousands of years when uninterrupted. And its richness lasted till our days.

Lech Wilczek, an artist, photographer and writer

By cutting timber from the last remnants of natural forests in Europe at the end of the 20th century, Poland puts itself on a shameful list. The Polish government treats the primeval forest only as a source of wood. For years experts from the Polish Academy of Sciences and ecologists at home and abroad have been calling for an immediate stop to the felling of natural tree stands

A bracket fungus on oak

and old trees in the whole of the Białowieża Forest and its protection as a national park.

Eryk Mistewicz, a columnist of the weekly *Wprost*

1997

The Committee of Forestry and the Committee for Environmental Protection of the Polish Academy of Sciences as assemblies of scientists concerned about the condition of the country's natural resources, including Polish forests, discussed the need for and ways of the lasting preservation of unique values of the Białowieża Forest at the meeting in the Forestry Research Institute at Sękocin near Warsaw on 20–21 March 1997...

We all agreed that:

1. The value and significance of this forest imposes a duty on society and authorities in Poland and Belarus to preserve the primeval character of the Forest's nature and the possibility of its regeneration.

2. The status of a national park based on an irreversible government decision is a special legal guarantee of complex environmental protection, recognized in Poland and Europe. Therefore the whole Polish part of the Białowieża Forest should be proclaimed a national park. Other solutions may be useful and supplementary to the final objective, but they are not sufficient considering the Forest's importance...

Professor Andrzej Grzywacz,
Chairman of the Committee of Forestry
of the Polish Academy of Sciences
Professor Ludwik Tomiałojć,
Chairman of the Committee for Environmental
Protection of the Polish Academy of Sciences

The management of environment must be separated from current politics, based on professionals and good cooperation with non-governmental ecological organizations. Unfortunately, the assignment of peasant party leaders to the positions of ministers, heads of ecological foundations and parliamentary commissions for environmental protection has discredited Polish ecology in the eyes of the world and made the solution of particular problems even more remote. We have wasted those years.

Professor Stefan Kozłowski
Chairman of the National Committee 'Man
and environment' of the Polish Academy of Sciences

The stopping of saws in the Białowieża Forest is the condition for the preservation of this part of the world's natural heritage and continues the best traditions of the Polish state – the protection of the primeval forest by kings.

Janusz Okrzesik, an ecological leader
and Senate member on behalf of the Coalition
of Ecological Leaders of the Freedom Union (UW)

One of the threats to the Białowieża Forest environment is the delaying of the decision to take its whole Polish part under efficient protection, which can only be ensured by its designation as a national park. There is no need to convince anyone that this area, unique in our whole continent, deserves protection. This opinion is shared by the members of two committees of the Polish Academy of Sciences: the Committee of Forestry and the Committee for Environmental Protection. Their members are democratically chosen outstanding scientists, which earns credibility to their statements. High-quality timber can be produced in

many forest complexes in Poland. The continuation of forest management, even according to the modified principles of the Promotion Forest Complex, will lead to far-reaching, often irreversible changes in the managed part of the Białowieża Forest. It will gradually become like other forests. Hundreds or thousands of plant and animal species, which still occur there, will die out forever. And such a transformation of forests adjoining the

Bison in the strict reserve

existing national park will decrease the effectiveness of protection of its present genetic resources.

Czesław Okołów, the director of Białowieża National Park

1998

The Białowieża Forest is the capital of Europe.

Krzysztof Wolfram,
the initiator of the Green Lungs of Poland project

According to the French who acquainted themselves with the local ornithological studies, as regards its bird species diversity, the Białowieża Forest matches the richness of the rainforests of Gabon in Africa and Guyana in South America. The primeval character of this forest complex also resembles that of a tropical

An eagle owl

jungle. For these two reasons alone it should obtain the highest status of protected territory as soon as possible, that is, become a national park.

Professor Ludwik Tomiałojć

The Białowieża Forest is the last place where there are still remnants of the forests which covered the whole European lowland in historic times. It still has many species of animals and plants that are extinct in other forests, including the bison – the biggest terrestrial animal in Europe. The remaining fragments of natural environments are living museums and windows to the past, where we can learn how forests function without human intervention. If we really want to call ourselves *Homo sapiens*, or rational men, it should be our top priority to preserve these unique treasures...

The Białowieża Forest, with its huge trees (the tallest spruces reach 55 m and the thickest oaks have more than 7 m in circumference), is inseparably connected with our history. It has been a source of invention for generations of artists and it constitutes part of our cultural heritage...

Despite some restrictions introduced lately, the business of removing the last remaining natural tree stands is continued. If we are not able to stop this process, practically all natural fragments of the Forest will be cut in the coming years and the last primeval forest of Europe will be just history...

Time is working to our disadvantage. The Białowieża Forest cannot wait. Day after day, more natural forest areas are felled and turned into forest plantations. Two or three hundred-year-old giants are cut and changed into boards. Let us do everything in our power to stop that.

What should be done to save the Forest? It is necessary to protect the whole territory in the most effective legal way accessible

in Poland – as a national park. Only in a park territory all actions of man must be subordinated to environmental protection.

Tomasz Wesołowski,
The All-Polish Society of Bird Protection

At the beginning of the 1990s, shocked by the speed and extent of Białowieża old-growth forest felling, I published an article entitled 'Death of the Forest'. Wherever you looked, cleared areas extended, bound to form timber forests in the distant future. The finest healthy old oak, spruce, pine and ash trees were felled and heavy equipment destroyed the forest floor. The taking away of thousands of natural forest trees and substituting them with rows of artificially grown seedlings, mostly of pine, only to obtain new timber inevitably brings death to the primeval forest. It can live as long as it grows out of the ashes of its ancestry and the natural cycle of birth and death continues for millennia. Today, only one place like this remains in Europe: the Białowieża Forest. Though its substance has been severely depleted, it still has powers to regenerate on its own.

An artificially planted forest as compared with primeval forest is like a cow compared to a bison or a village dog to a wolf. This is how the Noteć, Kampinos or Niepołomice Forests look like as compared to the Białowieża Forest. As Dutch metal by the side of real gold. It does not need us, our saws and feeble seedlings.

Great numbers of scientists and nature lovers have appealed to the government for the starting of a conservation programme on the whole Polish part of the Białowieża Forest. Instead of a natural park, the Promotion Forest Complex was established and equipped with a set of regulations and directives. These documents declared such radical changes in the approach to the Białowieża old-growth forests that it seemed the extension of the national park to the whole Forest area was no longer that urgent.

The Social Scientific Council of the Puszcza Białowieska Promotion Forest Complex was formed in order to advise foresters on their noble task of undoing the harms inflicted by man to the Forest and helping it to heal itself. It was a big mistake!

I have been a member of that Council from the very beginning. I helplessly watched the gradual alteration and modification of regulations and cancelling of prohibitions in order to facilitate wood production. Three years into the programme everything was back to the old ways of plundering the remnants of natural tree stands. Today the Social Scientific Council dominated by the foresters' lobby instead of saving whatever still remains to be saved, is about to agree or even advise to cut off the nature reserves scattered amid the managed forest. It is of course meant only 'to prolong their existence', and old trees have to be replaced by fine seedlings from nurseries to achieve this end. Of course something has to be done with the timber (why cannot it be just left on the spot to enrich the soil in the reserve?), especially that

Deer rutting ground in the backwoods of the Białowieża Forest

it is very good, marketable timber, suitable to be carried away and sold. And no one will see any more how old-growth forests left as nature reserves within the managed part of the Białowieża Forest 20 and 30 years ago looked like.

I consider it the duty of Poles to start immediately to preserve and protect the whole Polish part of the Białowieża Forest as a national park. Unless we want to be on the losing side again.

Professor Simona Kossak,
a member of the Social Scientific Council
of the Puszcza Białowieska Promotion
Forest Complex

The extension of the protected and unexploited part is blocked by the companies which obtain timber from the Forest and which have entered into alliance with the ministry officials in conflict with naturalists. Most of these companies were set up between 1993–96. The plan for 1998 anticipates the felling of over 113,000 m^3 of wood... A typical managed forest, which woodcutters turn the last patch of natural primeval forest into, does not guarantee the survival of the species threatened with extinction...

90% of people surveyed were for the immediate halt to the felling of primeval forest and for its preservation...

Eryk Mistewicz, *Wprost* weekly

For many years naturalists from the country and the world have appealed to the Polish government to establish a national park on the whole territory of the Polish part of the Białowieża Forest. These appeals are motivated by the fact that the Białowieża Forest in Poland and its other part in Belarus constitute the largest

and best–preserved fragment of forest once characteristic of the European lowlands. Its environmental values can hardly be overestimated...

The proposal of the extension of the Park was not put into life because of the objections of the local people, who were afraid that the changing of the whole Forest into a national park would exclude it from any economic use...

Professor Jan Szyszko,
Minister of Environmental Protection,
Natural Resources and Forestry

In May the Minister of Environmental Protection, Natural Resources and Forestry put forward a proposal named Contract for the Białowieża Forest, aimed at the effective preservation of unique values and resources of the Forest through providing the conditions for the development of the local communities, based on the balanced utilization of the Forest resources in harmony with the Forest.

Ministry of Environmental Protection,
Natural Resources and Forestry

Generally speaking, 'the Forest is nobody's property – it's not mine, yours nor ours, but it's God's and it's holy'. These words of the writer Stefan Żeromski are inscribed on the stone at the entrance to the Świętokrzyski National Park at Święta Katarzyna. This brilliant idea surpasses all our earthly proposals...

Professor Eugeniusz Bernadzki,
a full member of the
Polish Academy of Sciences

The summer of 1999

What have you, scientists, done to our Forest? Before the war, when someone was shooting at you, you just ran ten steps and you were hidden behind trees. Today two hundred steps is not enough...

A retired woodcutter
from Białowieża

The Epilogue

The last days of the second millennium AD brought the final decision of the government: the whole of the Białowieża Forest would not be a national park.

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The author, Simona Kossak, studied biology but she has chosen forestry as her profession. She was born in Cracow but she has chosen Białowieża as her place of residence. She comes from the famous artistic family. The book has been written to pay the author's debt for her thirty years of happy life in the old forester's lodge called Dziedzinka in the green paradise of the Białowieża Forest.

'The Białowieża Forest Saga' is a fascinating, richly illustrated tale of the primeval forest from the glacial period till the present times. Despite thethreat of total destruction it faced more than once in the past millennium, the Białowieża Forest survived almost miraculously till our times together with thousands of plant and animal species, including the magnificent European bison. Whether it survives the 21st century to remain a source of inspiration for artists, the worksite of researchers and the pride of the Polish and Belorusian nations, as well as a World Heritage site, depends in large measure on our generation. The book tells about all that and more.

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